



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

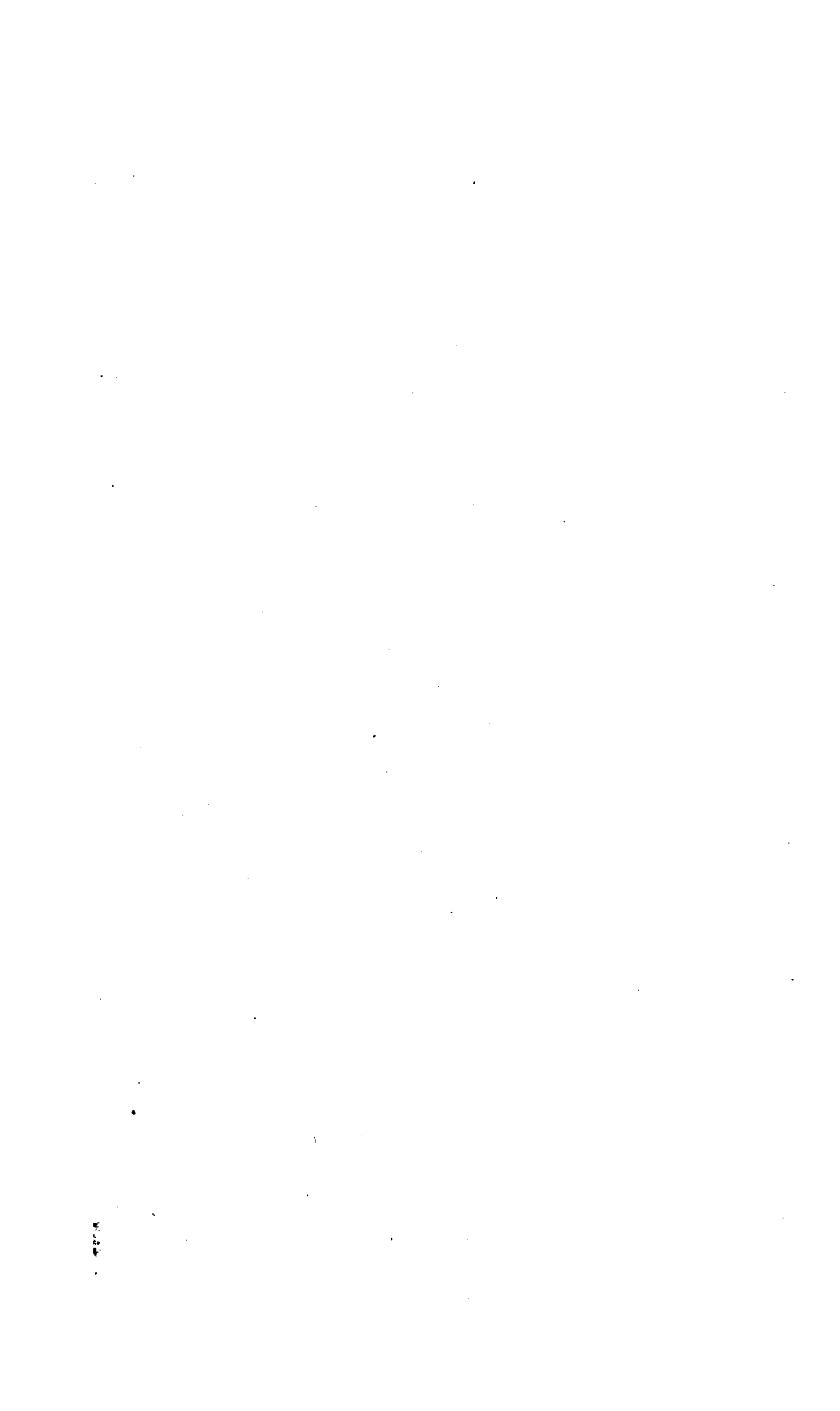
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

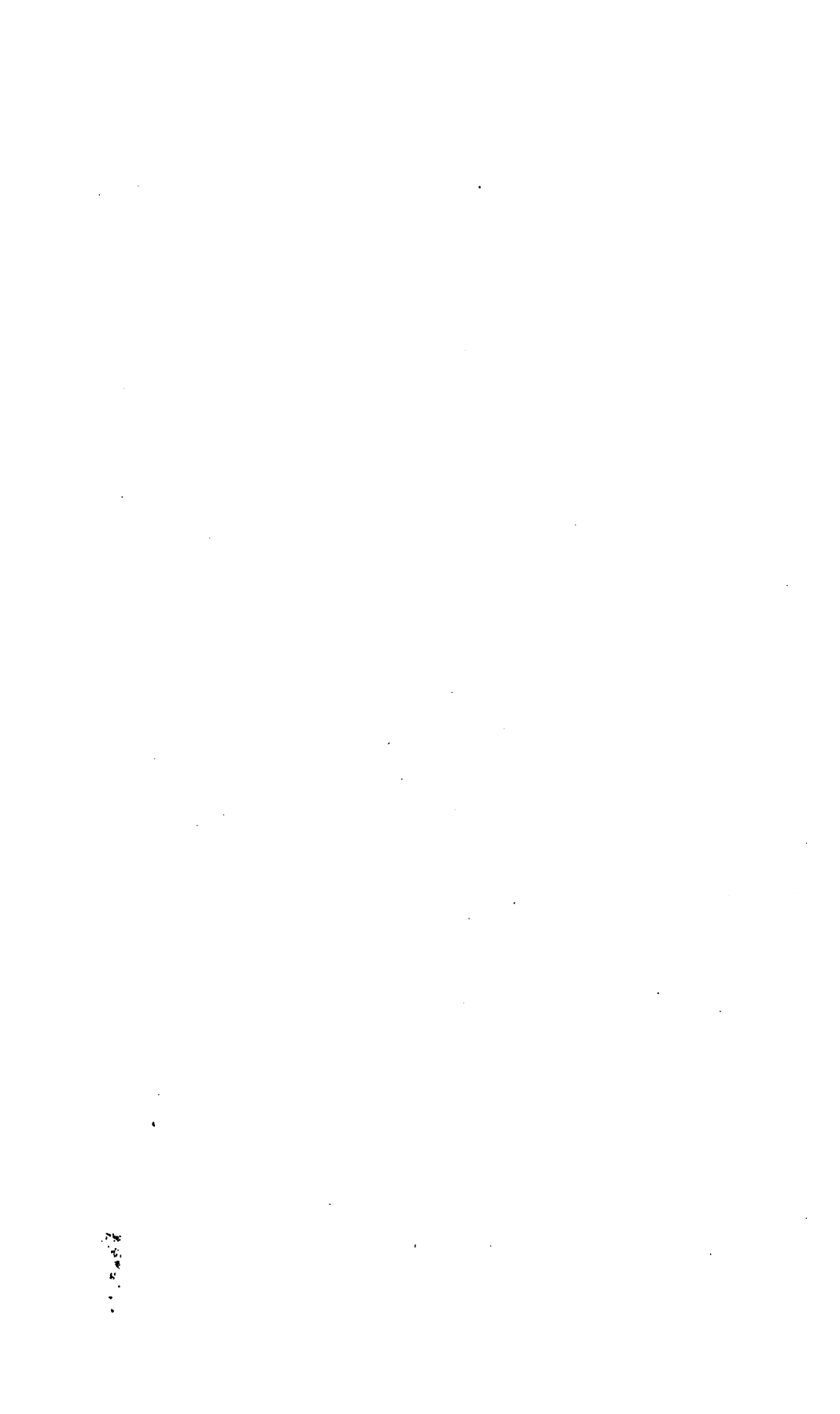
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

THE CULTURE
OF
The Pine Apple
BY
D. THOMSON











CULTURE OF THE PINE-APPLE



A
PRACTICAL TREATISE
ON THE
CULTURE OF THE PINE-APPLE

BY
DAVID THOMSON

ARCHERFIELD GARDENS, HADDINGTONSHIRE



WILLIAM BLACKWOOD AND SONS
EDINBURGH AND LONDON
MDCCCLXVI

191. i. 8.

TO HIS EMPLOYERS,
THE RIGHT HONOURABLE R. C. NISBET HAMILTON
AND
THE LADY MARY C. NISBET HAMILTON,
THIS LITTLE VOLUME
IS RESPECTFULLY DEDICATED BY
THE AUTHOR.



P R E F A C E.

IN preparing the following pages for the press, it has been my earnest desire to avoid all extraneous matter, and to treat most fully of what I consider of most importance to those who are seeking for information on the cultivation of the Pine-Apple. It will therefore be found that I have been brief on some points, while more elaborate on those that are purely cultural.

I have endeavoured to make the whole treatise as plain-spoken and strictly practical as possible; and if I have failed in doing this, it is not because I have had the least desire to discuss the physiological questions connected with the subject. I am, however, fully convinced that enlightened theory and sound practice in horticulture are in perfect harmony, but I wish the little work to be what its title describes.

However this treatise may be received by those who have not been eyewitnesses to the results of the prac-

tice which it details, I indulge the confidence that those who have from year to year looked into the Pinerias here will accept it as explanatory of the manner in which very fine pine-apples have been produced, not in isolated and pampered specimens at great expense, but in quantities for years in succession.

Rapidity of action is a prominent characteristic of the present generation, and horticulturists have striven hard to keep pace with the times. This is as much apparent in pine-culture as in any other branch ; for, instead of getting small fruits from old plants, that order is reversed, and only young plants are used, which are now made to ripen their fruit in half the time considered necessary not very long ago.

D. THOMSON.

ARCHERFIELD GARDENS, DREM, N.B.

February 18, 1866.

CONTENTS.

	PAGE
THE PINE-APPLE, ...	1
PINERIES, ...	2
VARIETIES OF PINE-APPLES, ...	8
SOIL, ...	11
TREATMENT OF SUCKERS, ...	13
SPRING TREATMENT OF SUCCESSION PLANTS, ...	18
SUMMER AND AUTUMN TREATMENT OF SUCCESSION PLANTS,	26
TREATMENT OF FRUITING PLANTS, ...	34
RETARDING AND KEEPING RIPE PINES, ...	40
HOW TO KEEP UP A CONSTANT SUCCESSION OF RIPE PINES,	42
TREATMENT OF PLANTS THAT MISS FRUITING WHEN REQUIRED,	45
THE PLANTING-OUT SYSTEM, ...	46
INSECTS TO WHICH THE PINE-APPLE IS SUBJECT, . . .	48
PROPAGATING SCARCE VARIETIES, ...	51
RESULTS OF THE PRACTICE DETAILED, ...	52

ON THE

CULTURE OF THE PINE-APPLE.

THE PINE-APPLE.

THIS noble fruit has, I believe, derived the name of pine-apple from its striking resemblance in shape to the cones of some of the pine-trees. It is probably the most luscious and rich fruit in cultivation; and its superior cultivation is reckoned one of the greatest triumphs of the horticulturist.

It is not certain to what part of the world we were first indebted for the pine-apple. That it is a native of the West Indies there is little doubt, as many of its varieties are found growing wild on the continent and islands of the West. It was first introduced into this country from Holland in 1690, by Mr Bentinck, ancestor to the present ducal family of Portland, who also was the first to cultivate it for the dessert.

PINERIES.

That which naturally claims attention first in treating of the cultivation of the pine-apple is the description of houses or pineries which afford the greatest convenience and facilities for first-rate cultivation, and the situation and exposure which they should occupy.

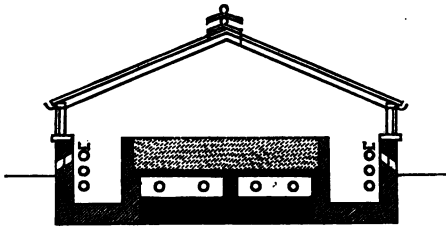
The situation should be one well sheltered from cutting winds, and having a full south aspect. There is nothing that necessitates hard firing to keep up a given temperature more than exposure to high winds, and the more conducive to healthy growth will the atmosphere be when the heat can be maintained without hard forcing. Therefore, shelter from north, east, and west should be taken into consideration in the erection of pineries, and this in proportion as the situation generally is one naturally exposed to high winds. It must, however, be borne in mind that, whatever the sheltering objects, they must not be allowed to interfere with a full exposure to sunshine at all seasons of the year.

During by far the greater portion of the year, pines cannot possibly have more light and sun than is necessary to produce a stocky fruitful growth in the dull atmosphere which so much prevails in this country. Pineries should, therefore, be constructed so as to admit and diffuse as much light and sunshine as can be had. In the few months when at times the sun may be more scorching than is desirable, a slight shading can easily be applied. When the sash-and-

rafter principle is adopted, I would advise that the sashes should not be less than six feet wide, and divided into five openings or panes of glass.

For summer growth I would give the preference to span-roofed houses, running north and south (fig. 1).

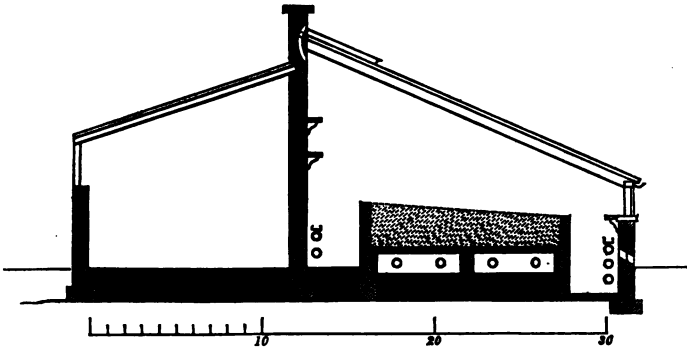
FIG. 1.



In the morning and afternoon they receive the full sun, and for a period in the middle of the day, when the sun is in his meridian, the pines are, in such houses, partially shaded from the scorching rays of the sun, while at the same time they are exposed to a great diffusion of light. Such houses are decidedly the best for summer growth ; but, for six months of the year, they do not, from their position, embrace so much direct sunshine as a lean-to house facing due south. Moreover, from the greater amount of glass as a radiating surface in span-roofed houses, they require more fire-heat to keep up the temperature. In these respects the lean-to gives advantages over the span-roofed pinery in whatever position the latter is placed. For starting pines in December and the two following months, as well as for swelling off fruit during winter and early spring, I recommend lean-to houses, as represented by fig. 2.

The dimensions of the two pineries represented by the woodcuts, are 40 feet by 18 feet, which give a house of handsome proportions. But as the extent

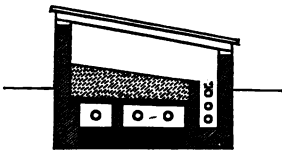
FIG. 2.



of the pineries must be guided entirely by the supply required, I will not enter further into this question. Suffice it to say that it is more desirable to have several structures of moderate size than a less number of larger ones. A constant succession of ripe fruit is much more easily kept up by having a number of compartments.

For a sucker pit, a common lean-to pit, as represented by fig. 3, is very well adapted, as the young

FIG. 3.



plants can be kept near the glass, and well exposed to light. But as the woodcuts given will more correctly than words explain the description of pineries

recommended, I will not extend my remarks under this heading. It will be observed that the accommo-

dation which I prefer and recommend is partly span-roofed and partly lean-to.

In the formation of the pine ground, the lean-to or early houses should be on the north of the space selected, so that the back wall forms the shelter from the north which is so desirable; the span-roofed structures to stand north and south, or at right angles with the early lean-to houses, and at a sufficient distance from them not to obstruct sunshine. The early house would thus be nearest the boiler in the back shed, and would form the very best shelter to the span-roofed or succession pits, which should not be very high. I am aware, indeed, from experience, that such houses and arrangements are not absolutely necessary for the production of first-rate pines; but these arrangements afford great advantages and convenience, and I recommend them as admirably adapted for the culture of this noble fruit.

The pine-apple being a fruit which requires a high temperature, particularly in some of its stages of growth, there should be a good command of heat both for top and bottom. It is not only a false economy to stint the amount of pipes employed, but a larger heating surface moderately heated is much more conducive to the health of plants than a smaller surface kept at scorching heat. I therefore recommend, as shown in the sections given, a liberal amount of pipes and plenty of boiler power. Besides this, I feel fully persuaded, from my experience in the use of coverings applied to the glass, that, in the case of fruit swelling off during the colder months of

the year, the double glazing now discussed in the gardening press would be an immense advantage. A high and steady temperature could be much more easily and economically maintained, and without a parched atmosphere, which in the case of hard forcing in winter requires so much and such constant counter-acting.

I have a decided objection to flat-roofed pineries. They are dark, and very productive of drip in winter, both conditions most undesirable in the culture of most plants, and particularly in that of the pineapple. Ventilation should be amply provided for at the apex of the roof; and, particularly in fruiting-houses, there should also be ventilators at intervals along the front, so placed as to cause the air to pass inward in contact with the hot-water pipes. Front ventilation is not to be recommended as a rule, but it is well to provide for it in the erection of pineries, so that in very hot calm days it can be applied, especially in the case of fruit that are colouring.

All pineries and pits should be provided with a steadily acting steaming apparatus, which can be used or not according as circumstances demand. An open gutter rising out of the flow-pipe at the front of the house, into which the water on its way from the boiler flows and passes along the whole length of the house, and descending into the return-pipe, is the best means of keeping up a steady supply of moisture that ever I have tried. This can be used or not, at the seasons when moisture is required or not required, by simply corking up the pipes through which the water flows

into the open gutter. The pipes should also be so arranged that, by means of stop-cocks, the bottom-heat can be shut off, and applied and regulated according to the amount recommended for the different stages of the growth of the pine.

In all pine stoves there should be a tank into which to conduct the rain-water from the roof, and passing through the tank a coil of hot-water pipe to warm it. This, in cases where pines are grown extensively, saves a vast amount of trouble in warming water, or in drawing it from the heating apparatus, which latter, on account of its rustiness, is not desirable.

The arrangement of the plants in the various kinds of pineries is a matter worth referring to. In lean-to houses the tallest plants should always be in the back row; and in span-roofed houses they should be placed in the centre row, so that in each case the plants form a sloping bank of foliage all fully exposed to the sun.

As I intend to refer to the management of the leaf-and-tan bed in the cultural directions to be given, I will not here enter on that question. I may just state that, apart from the increased labour and liability to violent heating, I have a warm side for the tan-and-leaf bed for pine-growing. I consider the heat derived from this old-fashioned source second to none other for the production of fine pines. Yet I would never prefer it to hot water, because it entails more labour and much more watchfulness, which, in these high-pressure days, is a powerful argument in favour of deriving all the heat from hot water, which can be

so easily applied and regulated to a degree. Nevertheless, I intend to speak of the management that I adopt in the case of pines grown on a bed of leaves and tan for the supply of bottom-heat. To derive top-heat from fermenting material is a thing which, I believe, is now rarely thought of, and is, to say the least of it, an expensive and cumbrous system.

VARIETIES OF PINES.

In making a selection of varieties it is not necessary to have many in order to keep up a constant supply of first-rate pines. I will not, therefore, give an extended list, but will enumerate and shortly describe those which are considered the best, and indispensable in pine-growing establishments of ordinary dimensions.

The Queen.—This old and well-known variety still holds its position as one of the best and most generally useful of all pines. It is a free grower, dwarf, and compact in habit, a very certain fruiter, comes quickly to maturity, is very handsome in shape, and of a rich golden colour. Its flavour, as a summer and autumn pine, is not excelled by any other, and it keeps in good condition for three weeks after being ripe. It propagates itself freely by suckers. From May till the end of October there is no pine to excel this for general excellence; but it will not swell freely in winter, and, as a winter pine, is generally wanting in juiciness and flavour.

Smooth-Leaved Cayenne.—Taken as a whole, this

is the finest pine I know for supplying ripe fruit from October till May. It swells more freely, and is more juicy in winter, than any other pine that I have grown, and its flavour is excellent. The habit of the plant is somewhat taller than the Queen, and more spreading, with very broad, brittle, dark-green leaves. It is a large and handsome fruit, and, when well swelled, weighs a pound for every pip in depth. Colour, a rich yellow, and shape slightly conical; when swelled to its best it is rather barrel-shaped. This splendid pine is now taking a high position in most collections. For some time spurious smooth-leaved varieties were thrown on the market for this one, and in consequence it fell into some considerable disrepute; but it has now fairly established its deserved high position among pines. It should be in all collections.

Black Jamaica.—Tall and erect in growth, a certain fruiter, medium size, with large flat pips, rather dull in colour, very high flavoured, probably the highest flavoured winter pine in cultivation; but some object to its hardness of flesh, and prefer the Smooth Cayenne on account of the melting juiciness of the latter. Still there can be no doubt of the excellency of the flavour of this variety, and it should be cultivated wherever winter pines are esteemed.

Hurst House Seedling, or Fairrie's Queen.—A very compact dwarf grower, with leaves very much recurved, and thickly set with very strong spines. Fruit conical, rather dull in colour; throws 6 lb. fruit in 8-inch pots; pips prominent; flavour medium. This variety is a shy fruiter, unless grown with very

little moisture at the root. Then I find every plant starts as freely as a Queen. A useful variety when space is limited. Three plants can be fruited in the space necessary for two Queens.

Bennet's Seedling, or Thoresby Queen.—A strong, broad-leaved variety, a little taller than the Queen. Fruit large, bright golden yellow, globular shaped. Firm fleshed and high-flavoured, weighing very heavy in proportion to its size. Worthy of a place in every collection.

White Providence.—A strong and tall-growing variety. Leaves very broad, and covered with down. It yields the largest fruit of any variety in cultivation. Globular in form, with very large flat pips. Flavour quite second-rate, and is useless in this respect in winter. It is an easily grown and free-fruited pine; but unless where there is plenty of room it is not to be recommended, and at most a few plants are sufficient in the largest collection.

Charlotte Rothschild.—Resembles the Providence in size and habit of plant—not quite so strong a grower; fruit large, flavour medium; said to be a good winter pine; but the fruit I have had of it have ripened in summer, and consequently I cannot say from experience what are its qualities as a winter pine. I think well of it; but from the size of the plant it cannot be extensively grown where the accommodation is moderate.

There are a great many more varieties which I might describe, such as different varieties of the Queen, Black Prince, Enville, Prickly Cayenne, Globe,

Antigua, and Blood-red, &c.; but though they are all distinct, they have characteristics which depreciate them; and unless in large establishments where they are grown for the sake of mere variety, they have no claims upon the space at the disposal of pine-growers in general; and as I will rather occupy my space with cultural directions as being the more useful, I will not describe any of these varieties that I cannot recommend. In my own practice, I find Queens, Smooth Cayennes, and Black Jamaicas the best and freest-fruited.

SOIL.

Dr Lindley, in his 'Theory of Horticulture,' says, "We are informed by Beyrick, that the pine-apple in its wild state is found near the sea-shore—the sand accumulated there in downs serving for its growth as well as for that of most of the species of the same family. The place where the best pine-apples are cultivated is of a similar nature. In the sandy plains, Praya Velha and Praya Grande, formed by the receding of the sea, and in which few other plants will thrive, are the spots where the pine-apple grows best." Although the soil in which the pine-apple is found growing in its native or wild state cannot be taken as an absolute guide, still the fact that sand is its native choice would of itself serve to teach the cultivator that a heavy clayey soil, having a strong attraction for water, is not likely to be the most suitable for the healthy growth of pine-apples. I believe that

practice has set its seal to this ; at least my experience leads me to recommend a fibry, sandy loam in preference to that which all gardeners know as a heavy and tenacious loam. That which I have selected here is taken from the surface of a rocky crag, and consists of a sandy loam very full of fibre. This is collected and stacked for twelve months before it is used ; and a few months before being required for potting, it is put into a dry airy shed, and chopped up with spades—not separating a particle of the fibre from it. It thus forms a soil with much more fibre in it than is generally used for pines, and one which the soft, rather fleshy roots of the pine seem wonderfully to enjoy.

This soil is used without any addition of manure consisting of animal excrement. I consider it very undesirable to use anything that has a tendency to produce a pasty, retentive tendency in the soil, or that would rapidly hasten the decomposition of the fibrous part of the loam. Animal excrement has a tendency to do both, and on that account I never employ it for the pine—all that is added to or mixed with the loam is an eight-inch potful of half-inch bones, and the same quantity of soot, to each barrowful of the loam. These mixtures are highly manurial, have a beneficial mechanical effect on the soil, and hold no inducement to the inroad of worms, but the contrary.

I have always observed that the most healthy of the roots are found in the most fibry part of the ball and among the crocks. Besides, a light turfy loam, free

from all slimy matter, must be regarded as the best medium for supplying nourishment in a liquid state, as will be found recommended further on in this treatise. I would, therefore, recommend a friable loam with all the verdure that grows on it—such as the top four inches of an old pasture where such can be had; and should such not be attainable, and the cultivator, therefore, be obliged to use a heavier soil, I would recommend that a portion of sand, pounded oyster-shells, charcoal, old plaster, or mortar rubbish be mixed with it, to prevent its ever becoming compressed or puttied—a condition which is most injurious.

SUCKERS.

Suppose a quantity of suckers to come under treatment about the end of August or beginning of September—the time when suckers are generally in a fit state to be taken from plants that have produced the summer supply of fruit—let them be carefully detached from the parent plants, cut their rugged base smoothly off with the knife, and remove with the hand those short scaly leaves which cluster round their base, and under which appear the young roots. The leaves should not be removed any higher up than where these young roots assume a brownish hue. As this operation is proceeded with, the suckers for convenience should be classed into two lots, the smallest and the largest being placed by themselves. The largest set, presuming that they are strong and healthy, are to be potted into eight-inch, and the

smallest into six-inch pots. The pots, if not new, should have been well washed both outside and inside. The crocking should be efficiently performed with rather finely broken crocks with all dust sifted out of them. They should be arranged in the bottom of the pots to the depth of one and a half inches in the six-inch, and two inches in the eight-inch pots. Over the crocks should be placed a thin layer of dry moss or the most fibry part of the loam, and over all a sprinkling of fresh soot, which acts as a barrier to worms and affords a stimulant to the plants.

In potting the suckers, place them sufficiently deep in the pots to keep them steadily in their places; press the soil about them as firmly as it can be pressed with a blunt-pointed piece of wood, and leave it about three quarters of an inch from the rim of the pots, that there be no difficulty in watering them when necessary. It being presumed that a pit was previously made ready for their reception, they should be plunged at once to the rim of the pot; and should the bottom-heat be derived from leaves or tan, or both, and not likely to exceed 85°, the plunging material may be placed firmly round the pots; but if the heat is likely to exceed 85°, let the material be placed lightly and openly round them. Let the plants be arranged as previously directed according to the structure of the pinery, and in doing so avoid crowding them together, the consequence of which is to draw the young plants up weakly, and to make good plants of them afterwards is almost impracticable.

They must now be shaded from the sun during the

brightest part of the day for ten or fourteen days, or in fact till it be found that they are making roots. In the afternoon, when the shading is removed, they should have a gentle dewing overhead through a very fine rose. The shading and dewing must not be abruptly discontinued, but by degrees; and entirely given up whenever the young roots can be discerned at the outside of the ball of soil. Then they should have a watering with water at 80° sufficient to moisten the whole ball. After this they soon begin to grow freely, and air should be given early in the day when fine. A good supply of air, with as much light as possible, and a moderately moist atmosphere, with a very sparing use of the syringe, will prevent them from making a weakly-drawn growth.

From the time the suckers are potted the great object is to obtain a compact sturdy growth as one of the principal points of future success, and which will enable the plants to go through the rigours of winter with impunity. This is dependent chiefly upon free exposure to light, a good supply of air without draught, and a moderate amount of heat and moisture both at the roots and in the air.

The night temperature for September should range from 65° to 70°, with 10° to 15° more for a while when shut up in the afternoon with sun-heat. After the middle of October the heat should be 5° less, and it should gradually decrease till, by the middle of November, it is 55° at night and 60° by day. During October the bottom-heat should not range higher than 75° to 80°; and for the three following months I con-

sider 75° quite sufficient to keep the roots healthy through these dull months. In olden times, when every sucker potted in autumn was deprived of its black and lifeless roots in spring, it was considered that pines lost all their previous year's roots in the common course of nature. But there is no doubt whatever that the real cause of the evil arose from the common rule of renewing the beds in which the pines were plunged at the fall of the leaf, the consequence of which was a degree of bottom-heat which pine roots cannot bear and live. The good pine-grower of the present time is not satisfied if, when September-potted suckers are shifted in early spring, their roots are not white and full of life, instead of black and shrivelled.

Under ordinary circumstances I would recommend that the suckers now being treated of should be kept quiet from the middle of November till the middle of February, and not encouraged to grow. To rest them thus a temperature of 55° is preferable to 60° , unless during very mild weather, but 60° should never be exceeded. The atmosphere should be dry rather than otherwise; and I have very rarely found that, when grown on a bed of leaves and tan, during these months they ever require any water at the root. The tan in which the pots are plunged is generally moist enough for the maintenance of pine roots in a healthy condition, and the soil in the pots is regulated as to moisture at this season by the state of the plunging material. Where the bottom-heat is supplied with hot-water pipes in air chambers or tanks, the plants may require an occa-

sional watering, but with the bottom heat that I have named the waterings required will be very few indeed. With young stock there is little danger of their fruiting prematurely from being kept dry, if all else be right ; and in all other respects it is much the best practice.

When the thermometer rises above 60° a little air should be put on, always at the highest point of the pit or house. But, unless during a continuance of dull damp weather, the temperature should not be purposely raised in order to admit of giving air. In most pineries there is a sufficient amount of circulation going on in the atmosphere through the laps of the glass and other chinks to render systematic air-giving, with the low temperature and dry atmosphere that I have recommended, unnecessary. It is therefore only during sunny days, when the heat is raised, that air-giving must be carefully attended to during the season of rest.

Under ordinary circumstances this is the winter treatment to be recommended as that which will give succession plants in the most robust and healthy condition in spring, and that can be grown into the very best fruiting stock by the following autumn. Scarcity of intermediate plants may, however, in certain cases, render it desirable to considerably increase the size of the plants in order to gain time. When such is the case they should be kept gently on the move all winter by keeping the temperature at from 60° to 65°, with a little more moisture at the root than has been recommended. The highest temperature named should

be given during the brightest and calmest weather, when it can be secured without anything like violent firing, and during weather the reverse of this the lowest is much the safest. This winter growth can only be pursued with success when the pineries are light and fully exposed to every ray of sunshine that can possibly be had. Otherwise the plants will become drawn and weakly, a condition which will more surely than any other defeat the object in view. It is only when there is a scarcity of good succession plants that I would advise these autumn suckers to be pushed on with the view of resting them in April and May, in order to start them for supplying fruit in autumn.

SUCCESSION PLANTS—SPRING TREATMENT.

This is the distinguishing term which is applied in spring to the suckers of the previous autumn, and it is as succession plants that I will now treat of their spring and summer culture.

Except in the case of plants which may have been kept in a growing condition all winter, it rarely occurs that September-potted suckers require a shift into larger pots before the middle of February ; more especially if at first they are potted into six and eight inch pots as recommended, which I am aware are larger pots than rootless suckers are generally potted into. In my own practice I am, however, never regulated by dates, but by the condition of the plants. Succession pine plants in a proper condition for shift-

ing I would describe as those which have moderately filled their pots with roots in a white and healthy state of preservation. They should not be shifted till roots have formed themselves round the ball of soil sufficient to keep it together. On the other hand they should not be allowed to stand unshifted till they become anything like pot-bound. If the former condition is not arrived at before the middle or end of February, the operation of shifting should be deferred, and the plants gently excited into action by increasing the night temperature to 60°, with 10° more with sun-heat by day, with a corresponding increase of bottom-heat and moisture both in the soil and air, till their roots are in the condition I have named. Should they have become pot-bound, which sometimes occurs in the case of strong suckers, especially when in the smaller-sized pots, the balls should be partially broken up with the hand, and the roots disentangled as much as possible. Plants with hard matted balls seldom start freely into growth, and are liable to start prematurely into fruit. The best way is to keep a watchful eye on young stock and shift them the first opportunity after they are sufficiently rooted.

About a week before the shifting is performed the plants should be carefully examined, and all those that are dry should be watered, so that at shifting time the soil may be moderately moist. If shifted with their balls dry it is difficult to properly moisten them afterwards, particularly as it is not desirable to water them immediately after being shifted. The

other preliminaries of getting the necessary amount of soil prepared and placed in some place to warm it, the pots cleansed and crocked and arranged in convenient readiness, should be all seen to before the day on which the pines are to be repotted. Hurry and confusion will thus be prevented in taking advantage of the first mild day for shifting and rearranging the succession stock. In draining the pots it must be borne in mind that the plants are to remain in them till they have perfected their fruit and a crop of suckers for another season's stock, and the drainage should be efficiently performed, as directed when treating of suckers, only the depth of crocks should be a little greater in the case of the pots to be recommended for fruiting in.

The house or pit intended for the reception of the plants after they are shifted should be thoroughly cleansed. The glass and woodwork should be all washed, and the walls whitewashed with hot lime, so that there may be admitted and diffused as much light as possible, which for a stocky and fruitful growth early in the season is one of the most important conditions in the cultivation of the pine-apple. In the case of those who are dependent on fermenting material for bottom heat, all that may be necessary in relation to that will be to mix into the surface of the bed about six or eight inches of fresh tan, well mixing it with a foot of the surface of the old bed. But should the leaves have been several years in the pit, and the heat much declined, it will then be necessary either to take out the tan and mix in some

fresh leaves with the old, or to add a greater proportion of fresh tan without interfering with the leaves at all. In the latter case the old tan should be sifted, preserving the roughest part of it. There is not an operation connected with the growth of the pineapple that I dread more than entirely renewing the leaves and tan in pine pits; and rather than run the risk of sudden and violent fits of bottom heat, I have allowed the leaves in the bottom of pits to remain undisturbed for six or seven years at a time. I have always found, where tan is easily got, that the safest and best way is to sift the tan once a-year and mix in with the old a few inches of fresh tan, which raises a steady and sufficient amount of bottom heat; and a bed so managed is far more under control than when the leaves and tan are annually or even biennially renewed entirely. All this labour in preparing beds is dispensed with where the bottom heat is supplied by a well-regulated system of hot water. And in this respect the labour connected with the shifting and arranging of pines in spring or any other season is much lessened and simplified.

Supposing that I am now treating of Queens that are required to fruit early in the following year, to supply ripe fruit in May and June—little more than eighteen months from the time they were taken as suckers from their parent plants—I prefer shifting them into their fruiting-pots at once instead of giving them two small shifts. Indeed, the size of pots into which they have been potted as suckers, and those into which I

shift them for fruiting, admit only of one shift without reducing the balls. The strongest plants in 8-inch are shifted into pots 12 inches wide and as many deep, and those in 6-inch into 11-inch pots. These sizes are sufficient for the production of the very finest pines. Indeed, fine fruit is not dependent on size of pot so much as on other points of culture. And what is of no small consequence, especially to those who have a regular supply of fruit to keep up from limited accommodation, it is found that pine plants grown in comparatively small pots are much more manageable in the way of getting them to start than when grown in larger pots. From this it will be observed that all that I recommend in the way of repotting pines, in their progress from the sucker state to their yielding and ripening their fruit, is simply one shift.

Before turning the plants out of their pots, a few of the short sucker leaves round their collars should be stripped off. When turned out of their pots, all inert soil on the surface of the ball should be removed with the hand, and the crocks taken from the bottom part, taking care not to injure the roots. The ball should then have a gentle tap or two with the palm of the hand, and the outside roots be disentangled a little without breaking up the ball. This is what is recommended in the case of plants that have the soil and roots in a thoroughly satisfactory condition—having fine healthy white roots, with a moderately matted ball, and the soil in a healthy condition. When, as may occur in individual plants, the

soil is either over dry or soured with wet from having stood in a drip, it is best to shake out the plants either more freely than I have directed, or entirely, according as the condition named may exist to a limited or extreme extent. The pots should be filled firmly up with soil, so that the plants when placed in them may be from two to three inches deeper in the pot than they were before. Being an advocate for very firm potting, I recommend that the soil should be rammed firmly round the ball with a blunt-pointed piece of wood. Be it remembered that the soil I have recommended to be thus acted upon is not a damp mixture of heavy soil and animal excrement, but a light turfy loam through which water passes freely; and the more firmly it is put into the pot the less water it holds in suspension, a point of no small importance in the growth of so succulent a plant as the pine. I never remember seeing really healthy pines or fine fruit in a rich puttied soil, holding a superabundance of water about the roots. The soil should be made thus firm all round the ball and about the collar of the plants up to within an inch of the rim of the pot.

When the whole are shifted they should be plunged in their growing quarters at once. And should there for the time be a scarcity of room for the desired number, with the prospect of more room in the course of a few weeks by getting rid of others that are fruiting off, they may be arranged rather thicker than is proper for them to make their summer growth. But if at once they can have the necessary amount of room—namely, two feet from plant to plant—all the better;

for there is nothing more to be deprecated in pine-growing than overcrowding.

Particular attention must now be paid to the bottom heat; 85° should be the point aimed at. And, where the heat is derived from tan and leaves, should it exceed 90° , the pots should be moved from side to side so as to leave an opening round their sides. Although there may not be absolute danger of burning the roots while they have not reached the sides of the pots, yet too much bottom-heat causes an over-rapid growth at too early a season, which, in the absence of longer days and brighter sunshine, is exceedingly undesirable. During the month of March the atmospheric heat should range during cold dull weather from 60° to 65° at night. I am not particular as to a few degrees, but much prefer being guided by the outside temperature. During bright sunshining days, when the pinery can be shut up in the afternoons with sun-heat, the temperature at 10 P.M. may be 70° , allowing it to sink to 65° by morning.

For a few days after being shifted they should be kept rather close, and the atmosphere moist, till they begin to lay hold of the fresh soil. Then a little air should be admitted daily as soon as the temperature exceeds 70° ; and with steady sunshine the amount of air may be gradually increased till 2 P.M., when it should be gradually diminished according to the character of the day, and shut up so as to run the heat up to 80° for a short time before dark. There should not be any attempt at causing a rapid growth till the days get longer and the light more intense. The plants

will root freely into the fresh soil, from the increased bottom heat and the healthy irritable state of the roots, without much perceptible top-growth for a time.

There will not be necessity for any water at the root for some time—not certainly till the early part or middle of April, and even then water should not be over liberally supplied. The experienced can tell by the very appearance of the plants when they require it; but the inexperienced should examine the soil occasionally and apply water when it becomes dry a few inches from the surface of the ball. Rain water is of course the best, and it should be heated to not less than 80°, nor more than 85°. At this season it is much safer to err on the side of giving a moderate amount of water than to keep the soil too wet while it is yet unoccupied with roots. The perspiratory organs of the pine are not very active at any season, and as the plant partakes so much of a succulent nature, a little extra moisture in the air is a much safer way of preventing injury from drought than by applying much water at the roots so early in the season.

It is often found, in the case of those who have next to no experience in pine-culture, that young pines after they are shifted are kept far too wet. I have taken the soil out of the pots and squeezed the water out of it. There is no more fatal course to pursue at any stage of their growth, but particularly in spring when newly shifted.

SUCCESSION PLANTS—SUMMER AND AUTUMN
TREATMENT.

The night temperature by the end of April should be 70° when the weather is dull, but when the pineries can be shut up with sun-heat the thermometer may range to 75° at 10 P.M. with advantage, falling to 70° towards morning. With a proportionate amount of atmospheric moisture the plants will now begin to grow freely. The increase of light and sun-heat will render a less amount of fire-heat sufficient, and, as a general rule, the state of the weather admits of a more liberal supply of air being given. This enables the cultivator to push forward his early plants without the danger of drawing them, which exists at an earlier period of the year.

In order to keep up the temperature with as little fire-heat as possible, air should be given early in the morning, almost as soon as the sun strikes the glass, and increased as formerly directed, so that the shutting up may take place at an earlier hour than is usual. This allows of the maximum temperature while there is yet a strong light, and husband the heat of the sun for the evening. The steaming-troughs should be filled up every day when the pinery is shut up, and at the same time the paths and walls damped with the syringe. Without a moist atmosphere at this season the growth will be deficient in broadness, texture, and that dark-green hue which indicates that all is going on well. I disapprove of heavily syringing young growing pines, and much prefer the

moisture to be applied by evaporation. On the afternoons of very bright days an occasional syringing overhead through a fine rose is beneficial, and keeps the plants clean; but regular heavy syringings have a tendency to keep the soil in a puddled state, as the leaves conduct all the water that falls on them into the pot, and this has a tendency to produce a soft unfruitful growth.

With increased air, light, and heat, and the very moderate syringings recommended, the state of the soil as to moisture must be carefully watched. An equal and healthy amount of moisture must be maintained. No amount of attention should be considered too much to prevent the soil from becoming dusty dry on the one hand or over-wet on the other, otherwise a check may be given and an amount of mischief produced that no after treatment can retrieve. It is a great mistake to suppose that a check is not as likely to arise from plants being kept too dry as from the opposite extreme.

When bottom heat depends on leaves and tan, it not unfrequently occurs, although the heat may be just right in March and April, that the hotter sun of May causes an increase of heat just at a time when the young roots are reaching the sides of the pot and are most susceptible of injury. The safest way is to have a thermometer in the bed, and as soon as the heat exceeds 90° to shake the pots from side to side and leave an opening all round them for the heat to escape. After it subsides the tan can be pressed to the sides of the pots again.

The temperature should now be carefully regulated, and fire-heat applied in the evening just in time to prevent the heat from sinking below 70° at 10 P.M. And when the morning gives signs of a bright day the fires should be damped down the first thing and be kept low all day. There is nothing more injurious than to have hot pipes, and a bright sun, with a maximum supply of air on. Such a state of things creates currents of scorching dry air, very trying to the plants, and robs the pineries too much of moisture. By the middle of May the plants will be growing freely, and moisture and air must be increased in proportion to the progress they make. The house should be steamed or damped the first thing in the morning as well as at shutting-up time. And after being shut up close for four or five hours, when the weather is calm and warm, a little "chink" of air should be left on all night. A little more air should be put on at 7 A.M., and gradually increased with the rising of the sun, till at twelve o'clock there is sufficient to create a circulation among the plants. Air should be given at the back or highest part of the house or pit, but, unless when the weather is close and sultry, none should be given at the front. With the increase of heat, light, and air, they will make rapid progress, and consequently more water at the root will be required, and it should always be about the same temperature as the bottom heat. The best and most convenient stimulant that ever I have used for mixing with the water is Peruvian guano—not in strong doses now and then,

but simply to well colour the water with it every time the pines are watered ; an ordinary handful to four gallons of water is sufficient.

In some localities, and with fine summer weather, after midsummer the temperature can often be kept up sufficiently without the aid of fire-heat. In a close structure there will be no difficulty in doing so, especially when early air-giving and shutting-up is practised. The heat can thus be husbanded so as to keep the thermometer at 70°, and when such can be accomplished without the aid of fire-heat so much the better in all respects. This is, I am aware, not applicable either to all localities or all seasons ; for many climates, even in favourable summers, will render the use of fires necessary the whole season.

Although very much opposed to shading pines in a general way, it is sometimes necessary, when they are growing rapidly and the weather becomes suddenly very bright after a continuance of dull weather. The shading should never be heavy nor long-continued. Tiffany or hexagon netting I have always found sufficient, and that only during the brightest part of the day. If all is going on right at the root and a moist atmosphere is steadily kept up, I have never found a necessity for more shading than this. At the same time, it is most undesirable that pines should become browned and wiry, and slight shade and more frequent gentle dewing at shutting-up time should be resorted to as soon as signs of it appear. Of two evils the browning of the leaves is not so injurious as a weak watery growth—the result

of too much shade and a close atmosphere. I find the true smooth-leaved Cayenne much more impatient of sudden bursts of bright sun than Queens or other varieties, and to grow it to perfection it should never be allowed to become much browned. In the case of this fine variety I have on some bright warm seasons, such as 1865, fixed a single ply of hexagon netting over the pits, and allowed it to remain for a couple of the hottest months. This simply breaks the power of the sun a little. In order to prevent this wiry, browned condition during summer, care should be taken that the plants are never once allowed to go too long without being watered, and a uniformly moderate moist state of the soil must be maintained.

Should any of the plants throw up young suckers from the axils of the lower leaves, they should be removed at once. The best way of doing this is to have a long-handled pair of broad-mouthed pincers, with which the suckers can be easily twisted out as soon as they are observed. Where much syringing overhead is practised, suckers frequently show themselves in abundance, in the case of Queens particularly. This is one of the many evils which result from the too liberal use of the syringe. It often occurs during the season of rapid growth that some of the centre leaves adhere closely to each other for a longer time than is good for them, and they should be separated either with the hand or with a slight touch of a stick where the hand cannot reach them.

As the stock of which I am now treating consists principally of plants that are selected to start into

fruit for the early supply of next season, the plants should always have their pots well filled with roots, and be of a stocky well-matured growth, by the end of August, otherwise there is little certainty of their being got to start in time to be ripe in May and June. If grown on the shady, large-pot, and wet-at-the-root system, they will not be in a fit state for the purpose now named; and even with the best of management to induce them to start without first making a growth in January and February, it is necessary that they should complete their growth early under the influence of plenty of light and air, or they will make a fresh growth when the temperature is raised with the object of starting them instead of coming up at once into fruit. True, those which make a growth first, I have always found, throw the finest fruit; but where an early summer supply of fruit is required, it must be had from those which start without any growth. In properly preparing plants for this purpose there are two things which must be guarded against. The one is that of having the plants pot-bound too early, and subjected to a high temperature too long in autumn. In this case the fruit comes up slowly late in autumn a hardened knot like a thimble, and is worthless, especially in the case of Queens. The other is a watery immature growth from which it is impossible to get early fruit.

In September, water must be judiciously and very sparingly applied. No more should be given than is just sufficient to prevent the plants from suffering either from aridity of atmosphere or dryness of soil.

A liberal supply of air should be given on fine days. Towards the end of September they should be as completely at rest as a comparatively low temperature, a dry atmosphere, and a proportionately dry state of the soil in which they grow, can place them. I have frequently allowed Queens in this stage to remain without a drop of water at the root from the first week in October till January, and found the plants so treated in the very best condition. To start pines into fruit at any given time, and, more especially, very early in the year, it is necessary to their doing so satisfactorily, that they have a period of rest previous to their being subjected to the treatment required to start them. Such as have completed their growth as I have described early in the season, can have from ten to twelve weeks' rest, and be started in time to ripen their fruit in the end of May and June. From the beginning of October, onwards to the end of December, it rarely occurs that pines intended to start thus early are the better for a drop of water, more especially when grown on a bed of fermenting material. And when the bottom-heat is supplied with pipes, it is much the safer way to keep the plunging material moderately moist than to water the pines.

The night temperature should drop gradually to 60° by the middle of October. In November, and until the time they are to be started, I prefer the temperature at 55° at night during cold windy weather, and 60° when mild. The bottom-heat should be proportionately low, just enough to main-

tain the roots in a white healthy condition, and 75° is quite enough for that. When with sun-heat during the day, which may occur during clear frosty weather, the temperature exceeds 65°, air should be given. With such weather as this it is sometimes necessary to fire sharply at night to keep up the required temperature; in such a case the fires should be checked the first thing in the morning, especially when a cold night is succeeded by a bright sunny day. Where it can be so arranged that covering can be used over the glass during such weather, it prevents radiation, and the atmosphere can be kept in a condition much more congenial to pines than when more fire-heat is necessary. For although a damp atmosphere, which leads to an accumulation of moisture and drips, is by all means to be avoided at this season, yet a parchingly dry atmosphere produced by highly-heated pipes is very prejudicial, and cannot well be counteracted in winter without producing the opposite evil. Hence the value of covering the glass at night. When, however, it becomes necessary to apply moisture to counteract the too drying effects of hard firing, the best way is to sprinkle the paths instead of the pipes, because the moisture will be carried more gradually into the atmosphere, and is therefore not so likely to accumulate and drop into the centres of the plants which, as all pine-growers have doubtless found out, is attended with spotted leaves, and not unfrequently deformed fruit.

Winter treatment the reverse of what I have here recommended—a high temperature and more water

at the root and the air—causes the plants to grow all winter ; and from want of light and air they will become drawn and weakly—in fact, worthless—or probably some of them may start at the dead of winter, when, particularly in the case of Queens, there is very little chance of their blooming and setting properly, and will either way be worthless. An instance of such treatment once came under my notice, when the whole resting season, instead of a low temperature, 75° of heat was kept up with moisture in abundance. The consequence was that when the time for starting them came round they were tall, tender, and only fit for the waste-heap.

Pine plants arrived at the stage I have been now treating of are termed fruiting plants, and under that heading I will speak of their further treatment.

FRUITING PLANTS.

Ripe pines being required in the early part of June, it will be necessary to set a quantity of Queens in motion by the first of January, to succeed those which are generally termed winter and spring fruiterers, and which will be treated of by-and-by. Queens are by far the best variety to start at this season, with the view of getting ripe fruit from them quickly to keep up the succession after the winter fruiting varieties. Yet for the sake of variety, and also to keep up as long a succession as possible from the same lot of plants, it is desirable to start a few of the later varieties at the same time, but Queens should form the great majority.

Where bottom-heat is derived from leaves and tan, the bed in the fruiting pinery should have fresh material added to it, as formerly directed, to increase the heat to from 85° to 90° ; but in doing this very particular attention must be paid to the state of the bed, as over much bottom-heat at this stage would prove fatal to anything like success. The principal part of the roots being at the bottom and round the sides of the pots, they are now more than ever particularly liable to suffer from too much heat, and great caution is necessary. Should there be any fear about the over-heating of the bed after it is prepared, it will be much safer to only half plunge the pots at first, till it be certain that the heat will not exceed 90° .

Those who have the more desirable and superior appliance of hot-water pipes or tanks for bottom-heat, will be spared the trouble and anxiety which attaches to the otherwise by no means inefficient, when well managed, fermenting bed. They can regulate the bottom-heat with much more ease and safety.

In selecting the plants for starting at this early season, those only should be taken which are most likely to start without making a growth. I will therefore suppose that the cultivator has a hundred plants of those treated of as "succession plants," and that from these it is desired to have a supply of ripe fruit from the first of June till October, and recommend that fifty of those most likely to start at once should be selected. In doing so the experienced eye will fix upon those with the thickest collars, and that have the greatest number of short sharp-pointed leaves

thickly set together in their centres. These are the most likely to send up their fruit without making a fresh growth, although some of them may disappoint even the most experienced ; still, in a general way, when prepared as I have described the previous autumn and winter, they will not disappoint.

In arranging and plunging these plants, a few of the bottom leaves should be stripped off, all the loose soil on the surface removed, and a top-dressing of loam put on, pressing it firmly to the collars of the plant and the sides of the pot. In moving these plants it is a common practice to tie the leaves up for the sake of convenience ; but I would here say that it is a practice which cannot be too severely condemned in any stage of the pine's growth, and particularly when the plants are full grown, and should have stubby, short, thick leaves that will not bear being squeezed into a bundle without considerable injury. I never tie pines up at any stage when working amongst them. Those who shift and plunge the strong prickly varieties can easily protect their hands from being torn by wearing a pair of gloves. In plunging them they should not be put thicker than two feet from centre to centre, and that side of the plant which has been to the sun all the growing season should be placed so still.

As soon as they are all plunged, water them with guano-water at 80°, giving them sufficient to moisten the whole ball, but be careful not to splash it about the leaves. The atmospheric temperature for January should be 65° at night, and 70° by day without sun ; with sun, 80° will be sufficient, and air should be

given when it exceeds that. The moisture in the air must also be proportionately increased, and should be done by sprinkling the paths and walls with tepid water two or three times a-day, instead of steaming the pipes for the present. A watchful eye must be kept on the state of the soil, and no more water given than is sufficient to keep it moist, but not wet. With too much water, and the degree of top and bottom heat now necessary, the tendency of pines to make growth at this season and miss starting for the time being is increased. With these conditions the plants having a mass of healthy roots in an irritable state will soon show signs of motion, and all the more surely in proportion as the heat and moisture are steadily administered.

In February the heat must be advanced to 70° at night, and 75° by day, and air put on when it exceeds 80° with sun, shutting up the house early in the afternoon so as to husband sun-heat. The moisture in the air must not be much more than in January, and the same cautious application of water to the root must be observed till the fruit makes its appearance. Most of the plants will show fruit before the last week of February. The centres of the plants will be observed to open by degrees, and on examining them the young fruit will be found emerging from the centre. Whenever this is observed, the plants, if inclining to the dry side, should have a watering sufficient to thoroughly moisten the whole ball, and the bottom heat already named should be steadily kept up.

Supposing all the plants to have shown fruit, the

night temperature for March should not range under 70° nor over 75° . There being generally great fluctuations of weather during this month, the temperatures I have named should be aimed at accordingly. The moisture in the air must be sparingly applied till the fruit is out of flower, and air admitted on all fine days, putting it on early in the morning and shutting it off early in the afternoon. Water at the root will be more frequently required, especially when they are plunged over a hot-air chamber. But avoid, as one of the greatest possible evils, a wet sloppy state of the soil. As soon as they are out of flower, sprinkle them overhead every fine afternoon with clear water at a temperature of 80° . As the season advances, with longer days and shorter nights, early shutting up with sun-heat must be practised; but, except with sun-heat, I do not recommend in April much or any increase of night temperature over that recommended for March, even though it be required to ripen the fruit with as much speed as possible. The forcing should be accelerated by day with sun-heat. They should be shut up soon after three o'clock, with a gentle dewing overhead, filling up the steaming-trays, sprinkling the surface of the plunging material and about the collars or bottom leaves of the plants. The temperature may then be run up to 90° for an hour or two. The fires, which should now be low through the day, should be quickened in time to keep the heat from falling below the maximum night heat at 10 P.M.

Under this treatment the fruit will swell rapidly, and careful attention must be paid to watering.

The great thing to be aimed at being to keep the soil in a healthy growth-giving state—moist, but not wet—it is a common practice to give occasional strong watering, with guano, sheep, or deers' dung. Instead of this, I prefer, as already directed for succession plants, to water every time with a weaker solution of these manures, and I prefer guano to any other ; and during the rapid growing season, I always put a little of it into the evaporating pans once or twice a-week, and find it gives that fine dark-green hue and thickness of texture so desirable to see in pines. They should be gone over as soon as the suckers appear, and where there are more than two to a plant remove them. When suckers or gills appear on the stems or under the base of the fruit, they should be removed immediately they are discovered.

The month of May generally brings comparatively warm sunny weather, and vegetation gets into full play ; and I am not sure but what May is the very best month in the whole year for swelling off pines. It is not generally so hot and scorching as the succeeding three months ; less air is therefore needed. The pineries can be shut up earlier, so that less evaporation goes on, and the swelling fruit can have a longer period of sun-heat and moisture in the afternoon than when the sun is more powerful, and it is not safe to damp and shut up before four o'clock. Advantage should therefore be taken of these circumstances, and the fruit pushed on, when it is an object to get them ripe as soon as possible. Under these circumstances the heat may be run up to 100° for an hour or two,

with the air loaded with moisture ; syringing must not, however, be to excess, or the result will be large crowns and an undue growth of suckers, to the detriment of the size and appearance of the fruit.

When the fruit begins to change colour, which, if the plants have been set agoing in January, will be in the end of May or early in June, it is necessary, in order to get highly-flavoured fruit, to increase the amount of air, and decrease the moisture both in the air and soil. Indeed, as soon as the fruit shows signs of turning yellow at the base no more water should be given, and the moisture of the atmosphere should be gradually withdrawn.

RETARDING AND KEEPING PINE-APPLES AFTER THEY ARE RIPE.

When a greater number of pines begin to ripen at any given time than is necessary to supply the demand, it then becomes desirable that a portion of them should be retarded to form a succession of fruit in good condition. In the absence of a compartment specially for the purpose, I have frequently placed them in a vinery where grapes are nearly ripe, and where the temperature is comparatively cool with a circulation of dry air. In such a place, pines that have begun to colour ripen slowly, and they are excellent in flavour. The cool dry air of the vinery, and the shade of the vines, are good retarding conditions ; and this is as good a way, apart from having a place for the purpose, as any that I have tried. I

have also removed them to a cool dry room when about half coloured, and kept them there a month or six weeks and found them in excellent condition. This treatment, of course, applies to summer fruit. Later in the season I have kept Smooth-leaved Cayennes in a room for six weeks after they were quite ripe. In this way a succession of fruit can be very much extended as compared to keeping them in a warm pinery.

When the fruit is all cut from a pit or houseful of plants, the suckers should be carefully attended to. The dry condition of the air and soil which is necessary to good flavour is not favourable to the suckers at this hot season of the year; consequently, when the suckers are strong, I frequently detach them from the plant as soon as the fruit begins to colour. If the suckers are small when the fruit is cut, they should be left on the parent plant; then the soil should have a good watering to encourage them to make further growth. It rarely occurs that they are not quite large enough to be potted about the time the fruit begins to ripen. I may here remark, that the practice of allowing the suckers to lie in a cool dry place, with the object of what is called drying them, is one for which I never could see any reason, or any good end that could be gained by it. On the contrary, in my opinion, the practice is injurious to the progress of the young plants. To say the least of it, it is attended with a loss of time.

When it is desirable to have the fruiting plants of which I am now treating to ripen earlier than the

beginning of June, they must, of course, have heat applied to them in December instead of January, and with properly constructed and heated pineries there is nothing to hinder this. But where the houses are not light, tight, and well heated, it is a matter of no small difficulty, and it is much safer to wait for the "turn of the day." The other half of the set of fruiting plants of which I have here been treating should be kept quiet till the end of February. Introduced into heat, and managed in the same way as the early half, they will come in as a succession lot. And, as is always likely, a good many of them which the experienced eye rejected while picking the earliest out make a growth before starting, and in that way still further lengthen out the succession of ripe fruit from this portion of the stock. For this purpose Queens are most useful in all respects, and can be had in good order from May till November.

I have considered it the best way to follow out the treatment of this one set of plants, without mixing up with their management that of different sets of plants necessary to supply ripe fruit in winter and spring. Of these latter I will now speak.

HOW TO KEEP UP A CONSTANT SUCCESSION OF RIPE FRUIT ALL THE YEAR.

Where a regular supply of fruit has to be kept up with the least possible intermission all the year round, it is more certainly accomplished by potting a quantity of suckers at frequent intervals. Supposing that

a number of Queens ripen in May, June, and July of 1866, these stools will give the suckers that supply the earliest fruiters for 1868. And those that ripen in August, September, and October, give the suckers that will succeed the earliest lot, so that these two sets of early fruiting sorts cover six months of the twelve. The other six months of winter and spring—particularly spring—are those in which pines are most valued, as other fruits are then scarce. March and April are the most difficult months of the whole year in which to have ripe pines.

In June and July I always endeavour to start a quantity of the true Smooth-leaved Cayenne. This is a noble pine when well grown, being unsurpassed for appearance and long keeping after it is ripe, and swells better after October than any other pine I know. The Black Jamaica is also a most useful pine for winter swelling, and probably is unsurpassed for flavour at the dullest season of the year. The Queen is comparatively worthless as a winter pine compared to these two; it does not swell kindly, and is always dry and juiceless compared to them.

There should be two sets of Cayennes and Jamaicas, as recommended in the case of Queens and other early sorts, for summer and autumn fruit. The Smooth-leaved Cayenne is so very shy in making suckers that I always endeavour to save as many crowns as I can, and take all the suckers that can be got in October from the fruiting plants, whether the fruit be ripe or not. These suckers and crowns are potted generally into 6-inch pots, and shifted in

44 HOW TO KEEP UP A SUCCESSION OF RIPE FRUIT.

spring as soon as sufficiently rooted, as described in the former part of this treatise. These are shifted into 11 and 12 inch pots, and grown on in the usual way, only that they are not kept so dry in autumn and winter as is desirable for early starting plants. The temperature, too, is kept five degrees higher than for Queens at rest; the object being not to ripen, as it were, the growth of these so as to predispose them to start in spring. The heat is quickened, both top and bottom, in February, and they make a spring growth; are rested in May and June by being kept drier and cooler; and then, with increased heat and moisture, I rarely ever fail in starting them all in June and July. Care must be taken that they never get too dry at the root, particularly in spring, as that would be likely to start them before this is required. This applies with the same force to Jamaicas. These will keep up the supply of fruit till the end of the year.

It is necessary to have a later lot of these two varieties to come in for spring, and this I find rather difficult in the case of the Smooth Cayenne. It makes suckers still more tardily from late plants. The method I generally adopt is to save the old stems of those that ripen their fruit through the winter, and place them in strong bottom heat to spring the latent buds. These grow into nice plants, ready to shift into 8-inch pots in September, and I shift these into their fruiting-pots in March, and by pushing them on they start in September and October, and succeed those started in June and July. For this purpose I most

decidedly give the preference to the Cayenne; and from plants of it so managed, I have had very fine fruit in the spring months. They are kept on at a temperature of from 60° to 65° all winter, with a steady bottom heat of 80°.

There is nothing peculiar in the management of these winter fruiting sorts, except it be that I never keep them so dry and so completely at rest in winter as those intended to start early. This is with the view of their not resting and maturing themselves so thoroughly in autumn and winter as would cause them to start when excited in spring. The Smooth Cayenne requires more moisture at the root when growing than is good for most other sorts. It is also more impatient of bright sun early in the season than any I know, more especially if kept gently on the move all winter. And rather than allow the foliage to become bronzed, shade should be applied for a time, as already directed. When swelling off in winter, water at the root will of course not require to be so frequently given as in summer, and there should be no syringing. The evaporating trays will keep the air sufficiently moist. Air must be put on for a short time in the middle of every fine day.

PLANTS THAT MISS FRUITING.

It not unfrequently occurs that a few plants miss starting into fruit along with the others, but continue to grow, in spite of every effort to make them fruit. The common practice is to throw these away. When I have room to conveniently operate on these I cut the

plants over at the surface of the soil, and strip a few of the leaves off them, and pot them deeply and very firmly in fruiting-pots. They are slightly shaded for ten days, by which time, with a brisk bottom heat, they begin to send out wonderfully strong roots, and then the shading is discontinued, and they are watered. In this way they are transformed into *dwarf* strong plants, and I always find they start into fruit very soon after, and swell off fine fruit. Were I to enter on a place where the pines have been drawn and not likely to be got to fruit satisfactorily, I would treat them in this way instead of throwing them away, as is often done in such circumstances.

THE PLANTING-OUT SYSTEM.

Although I have given a good deal of attention to the planting-out system of pine-culture, and made myself acquainted with the most successful instances of its adoption, I have never resorted to it. Not that I suppose fine fruit are not produced by it: facts prove the contrary. But with the space at my command I have decided that, to keep up the supply which I usually produce nearly every week in the year, I can more certainly do so on the pot system than by having the plants planted out in beds. Plants in pots are entirely under control at all times, for being moved or removed to force forward or retard the ripening of fruit as circumstances demand. This is of vast importance where the space in pine beds is small in proportion to the demand for fruit, and in this

respect pines in pots give an advantage over the open bed. Neither do I consider it necessary to have finer fruit than can be produced from 11 and 12 inch pots. In fact, it is not the size of pot, nor the greater range that the planting-out system gives to the roots, that are the principal points of good pine-culture.

The planting-out system may be carried out either over a bed of leaves or with hot water for bottom heat. The best example of this system that I have ever seen was at the Royal Gardens, Frogmore. And there, I believe, a bed of leaves for bottom heat is preferred to hot-water pipes. The suckers are not potted, but planted at once into beds of soil over a bed of leaves about two or three feet deep. From the sucker pits they are transplanted into the succession pits, and from the latter into the fruiting pits, where they are planted two feet apart in the rows. In other respects the treatment is the same as for plants in pots.

Others again, where the bottom heat is derived from hot water, do not have recourse to regular transplanting, but either move the stools as the fruit are cut, and put in a little fresh soil and another plant ; or they adopt the "Hamiltonian system" of leaving a sucker, and sometimes two, merely cutting down the old plant to the sucker and putting some fresh soil round it. The system can of course be modified as circumstances will allow ; but from all that I have seen of it, it is my opinion that as fine fruit are produced in pots ; and for rapid and certain fruiting, and where the most is to be made of space in keeping up a supply, the pot

system is the best. At all events, any one who makes himself master of pine-apple culture in pots can have no difficulty in growing them in open beds of soil. The same points must be aimed at in both systems. And for beginners, any errors or mistakes in management can be more easily retrieved, I should say, in the pot than in the planting-out system.

INSECTS TO WHICH THE PINE IS SUBJECT.

White Scale.—This is the most destructive and formidable insect which the pine-grower has to dread; and in forming a collection of pines, every possible precaution should be taken to avoid getting plants infested with white scale. A very few of it will soon overrun a whole collection, and cause a great deal of trouble and expense in getting rid of it. It is an oval-shaped insect, grey, speckled with brown, and adheres closely to the surface of the leaves, and preys upon the juices of the plants, rendering them very unsightly, and weakening them with great rapidity. It increases with amazing rapidity, and yields only to the most severe and laborious treatment. I have known collections which have soon been rendered all but useless through the introduction of a single plant with a breed of this scale in it.

I am glad to say that I have been fortunate hitherto to escape having anything to do with it, and have so far the want of experience in destroying it. Many are the remedies which have been recom-



mended for its destruction ; while some have looked upon it with despair, and have got rid of it only by getting a clean stock of plants, after having destroyed the infected ones, and thoroughly cleansed their pineries.

Mr Tilley, of Welbeck Gardens, has written so confidently of a remedy which he has adopted with success, that I quote what he has published concerning it: "I mixed equal quantities of the driest new soot and flour of sulphur together, and syringed the plants with a fine syringe, then dusted them above and below with a common sulphur puff. It was done in the dead time of the year, and not syringed off for three weeks. The syringing washed the mixture into the axils of the leaves and to the roots, and in the soil, where it acted as an excellent stimulant when the plants began to grow in the spring. Out of six pits so done, I could not detect one insect alive at the summer shifting, nor have I found any since." Of all the remedies that I have known to be used and seen recommended, this appears to me to be the simplest and most effectual. Some recommend dipping the plants in clean water, heated to 130°; others speak confidently of soap-suds from the laundry, to every gallon of which is added a quarter of a pound of yellow soap. In this the plants are immersed, and allowed to remain in it for twelve hours.

Brown Scale.—This insect sometimes affects pines, but it is not nearly so difficult to deal with as the white scale. I know from experience that syringing

with clean water, heated to 130°, completely kills it without injuring the plants.

Mealy Bug.—This is also a most formidable insect to get rid of when it gets established on pine plants. The white dusty material with which it surrounds itself completely protects it from the influence of hot water applied through the syringe, and it is second in its destructive effects and difficulty of being eradicated only to the white scale itself. If allowed to go on, it affects every part of the plant—the fruit, leaves, and roots. Consequently, the first appearance of it should be dealt with as a serious evil, to be checked and eradicated at once. Mr Tilley, of Welbeck, writing at the same time as that I have already referred to in the case of the white scale, says that he found Scotch snuff applied in the same manner as he recommends the soot and sulphur for scale to completely eradicate the mealy bug. For the destruction of this pest there have been nearly as many receipts published as there are days in the year. I have been fortunate enough to have had no experience in ridding pines of this insect either; I will, however, quote a receipt from the ‘Transactions of the Horticultural Society of London,’ which is said to be effectual for the destruction of the insect as well as scale on pines: “To three gallons of rain-water add two pounds of soft soap, eight ounces of sulphur vivum, and two ounces of camphor, boiled together for an hour, and then add three ounces of turpentine. The plants are then turned out of their pots, and immersed, roots and all, in a trough filled

with this liquid, heated to a temperature of from 120° to 136°, and are left in it for about five minutes." This is said to be an effectual receipt, and, like all others recommended, it shows how formidable these enemies are to deal with, and how very desirable it is to avoid getting a breed of them on pines.

PROPAGATION.

Generally there is little trouble in propagating and keeping up a stock of young plants, as the majority of varieties propagate themselves freely by suckers and crowns. The latter I never use, except in the case of some varieties which are very shy in producing suckers—such, for instance, as the Smooth-leaved Cayenne, White Providence, and Hurst House. Suckers are much more desirable, and grow into strong plants more rapidly than crowns. Those varieties that do not produce suckers in sufficient abundance I always find easily enough increased by preserving the old plants from which the fruit is cut, stripping all the leaves off them, and placing them entire in shallow boxes, covered to the depth of an inch with light rich soil, and placed in a bottom-heat of 90°. In this way every latent bud on the stems bursts into growth; and as soon as they begin to emit roots, they are twisted carefully from the old stem, and potted in 6-inch pots. The stems may also be split up through the middle, and cut into pieces according to the number of buds, and potted singly into small pots, and plunged in bottom-heat. This plan gives more labour and re-

quires more room, and sometimes the pieces rot before the buds start. However, either way can be practised with success.

By this mode of propagation a clean stock can be produced from plants infested with scale. In this case the stems should be well scrubbed with soap and water before being placed in boxes or pots. In this way a perfectly clean set of plants has frequently been produced from stock which have been overrun with insects.

RESULTS OF THE PRACTICE DETAILED.

Instead of my own testimony as to the results of the practice detailed in this treatise, I prefer giving some of the various reports which have been made in the gardening periodicals from time to time, as follows :—

“The pines are really unique—all splendid examples of high cultivation. Queens and Smooth Cayennes are largely grown. There were some of the latter swelling off fruit of enormous size and beautiful build, most of them, if not all, grown in 11-inch pots. . . . The succession stock were unusually vigorous, remarkably stubby and strong, bidding fair to rival the present fruiting stock.”—*Scottish Gardener*, Jan. 1861.

“One pine-pit contained 35 Smooth Cayenne pines, growing in 11-inch pots, and swelling off fruit of extraordinary size. One end of the pit was filled with Queens, equally good for that variety. . . . Succession stock promising even more than those referred to above.”—*Scottish Gardener*, Dec. 1861.

“We must not omit to mention some splendid examples of pine-culture sent in by Mr D. Thomson of Archerfield, by whom the £10 prize offered by the proprietors of this Journal was won. They were shown in pots, the fruit being in an unripe state ; but their sturdy vigour and perfectly swelled fruit showed them to be models of high cultivation.”—Leading article in *Gardeners' Chronicle*, Sept. 9, 1865.

“These three pines with their beautiful foliage made a grand centre-piece to the fruit-show, and were fully as attractive as any trophy group of plants could be.”—*Gardeners' Magazine*, Sept. 16, 1865.

“The healthy appearance of the plants, and other circumstances, proved beyond doubt that the soil and treatment suited them, for it would be impossible to look on pines indicating a higher degree of health ; and yet at the same time the foliage was not of that gross character I have frequently seen when fruit only half the size was produced.”—*Journal of Horticulture*, Nov. 14, 1865.

MESSRS BLACKWOOD & SONS'

RECENT PUBLICATIONS.

RALPH DARNELL.

By CAPTAIN MEADOWS TAYLOR, M.R.I.A., Author of 'Tara: a Mahratta Tale,' &c. Three Volumes, post octavo, price £1, 11s. 6d.

"Viewed simply as a contribution to popularised Indian history, we could hardly give it greater commendation than when we say, that its author brings to bear on it the experience of a soldier, the eyes of a patriot, and the hand of an able novelist. None but a writer possessed of all three of these qualifications could have penned the graphic delineations, both of events and of character, which abound, especially through the third volume."—*Athenæum*.

"A very interesting story."—*Pall Mall Gazette*.

"No one acquainted with native life, however hostile to natives, will, we believe, read that sweet sketch (Noor-ool-Nissa) unmoved, or without an inner feeling that the highest life of India, and of Mohammedanism, is there expressed."—*Spectator*.

THE ILIAD OF HOMER.

TRANSLATED INTO ENGLISH VERSE IN THE SPENSERIAN STANZA. By PHILIP STANHOPE WORSLEY, M.A., Fellow of Corpus Christi College, Oxford. Books I.-XII. Post octavo, price 10s. 6d., uniform with the *Odyssey*, in 2 vols., price 18s.

"No version published in the present century seems at all comparable to his; and those who feel, as we feel ourselves, that it is an advantage to have great classical works retranslated from time to time in the best manner of particular periods of literature, will read him, as we have read him, with great and real delight."—*Athenæum*.

THE HANDY HORSE-BOOK;

OR, PRACTICAL INSTRUCTIONS IN RIDING, DRIVING, AND THE GENERAL CARE AND MANAGEMENT OF HORSES. By a CAVALRY OFFICER. Second Edition, price 3s. 6d.

"Most certainly the above title is no misnomer, for the 'Handy Horse-book' is a manual of driving, riding, and the general care and management of horses, evidently the work of no unskilled hand."—*Bell's Life*.

"To find such a book as that whose title I have placed at the head of this paper is really a boon. It is the work of a man who knows his subject and likes it. He tells us, in his few words of preface, that it was from the frequent occasion he was called upon to answer questions and give advice to his friends on horse matters he was induced to commit himself to print. It is not often that the instance of a man's acquaintance results so profitably for the public. In the present case, we have every reason to be thankful for the persecution. It is all that such a book should be—brief, intelligible, replete with sound sense, and a thorough understanding of what it treats."—*Blackwood's Magazine*.

ETONIANA, ANCIENT AND MODERN:

Being Notes of the HISTORY AND TRADITIONS OF ETON COLLEGE.
In fcap. octavo, price 5s.

"The volume before us is just the kind of book to make outsiders acquainted with the living spirit of a great English school as it used to be, and, in fact, as it must always continue to be. It is not a disquisition on Eton education, nor is it a reproduction of the Report of the late Public Schools Commission. It is a collection of illustrations of the history, and what we may call the life, of the school, as distinct from its formal teaching by means of books and lessons."—*Pall Mall Gazette*.

"A most learned and withal readable account of the early records of the school, a full history of the Montem, and a host of anecdotes of bygone Etonians, besides a very reliable notice of its present condition."—*John Bull*.

MESSRS BLACKWOOD & SONS'

FAUST: A DRAMATIC POEM.

By GOETHE. Translated into English Verse by THEODORE MARTIN.
In post octavo, price 6s.

"In sound and in sense he has produced a singularly faithful representation of the only considerable German poem since the mediæval 'Lay of the Nibelungen.' A good translator must satisfy the double test of comparison with the original, and of the criticism of the unlearned or indigenous reader. Mr Martin's 'Faust' would survive as an interesting and spirited poem if Goethe and his language were, by some unfortunate catastrophe, to disappear."—*Saturday Review*.

"The best translation of 'Faust' in verse we have yet had in England."—*Spectator*.

CORNELIUS O'DOWD UPON MEN AND WOMEN,

AND OTHER THINGS IN GENERAL. Originally published in 'Blackwood's Magazine.' Three vols. crown octavo, price 31s. 6d.

"The flashes of the author's wit must not blind us to the ripeness of his wisdom, nor the general playfulness of his O'Dowderies allow us to forget the ample evidence that underneath them lurks one of the most earnest and observant spirits of the present time."—*Daily Review*.

"In truth one of the most delightful volumes of personal reminiscence it has ever been our fortune to peruse."—*Globe*.

THE DISCOVERY OF THE SOURCE OF THE NILE: A JOURNAL.

By JOHN HANNING SPEKE, Captain H.M. Indian Army. With a Map of Eastern Equatorial Africa by Captain SPEKE; Numerous Illustrations, chiefly from Drawings by Captain GRANT; and Portraits, Engraved on Steel, of Captains SPEKE and GRANT. Octavo, price 21s.

"The volume which Captain Speke has presented to the world possesses more than a geographical interest. It is a monument of perseverance, courage, and temper, displayed under difficulties which have perhaps never been equalled."—*Times*.

WHAT LED TO THE DISCOVERY OF THE SOURCE OF THE NILE.

By JOHN HANNING SPEKE, Captain H.M. Indian Army. Octavo, with Maps, &c., price 14s.

"Will be read with peculiar interest, as it makes the record of his travels complete, and, at the same time, heightens, if possible, our admiration of his indomitable perseverance as well as tact."—*Dispatch*.

A WALK ACROSS AFRICA;

Or, DOMESTIC SCENES FROM MY NILE JOURNAL. By JAMES AUGUSTUS GRANT, Captain H.M. Bengal Army, Fellow and Gold-Medallist of the Royal Geographical Society. Octavo, with Map, price 15s.

"Captain Grant's frank, manly, unadorned narrative."—*Daily News*.

"Captain Grant's book will be doubly interesting to those who have read Captain Speke's. He gives, as his special contribution to the story of their three years' walk across Africa, descriptions of birds, beasts, trees, and plants, and all that concerns them, and of domestic scenes throughout the various regions. The book is written in a pleasant, quiet, gentlemanly style, and is characterised by a modest tone. . . . The whole work is delightful reading."—*Globe*.

RECENT PUBLICATIONS.

NARRATIVES OF VOYAGE & ADVENTURE.

By SHERARD OSBORN, C.B., Captain Royal Navy.

CONTENTS.

STRAY LEAVES FROM AN ARCTIC JOURNAL—1850-51.

THE CAREER AND FATE OF SIR JOHN FRANKLIN.

THE DISCOVERY OF A NORTH-WEST PASSAGE by H.M.S. Investigator.

QUEDAH; or, Stray Leaves from a Journal in Malayan Waters.

A CRUISE IN JAPANESE WATERS.

THE FIGHT ON THE PEIHO IN 1859.

In Three Vols., price 17s. 6d.

THE PERPETUAL CURATE.

By the Author of 'Salem Chapel.' Being a New Series of the 'Chronicles of Carlingford.' Three vols. post octavo, price £1, 11s. 6d.

"We can only repeat the expression of our admiration for a work which bears on every page the evidence of close observation and the keenest insight, united to real dramatic feeling and a style of unusual eloquence and power."—*Westminster Review*.

"The 'Perpetual Curate' is nevertheless one of the best pictures of Clerical Life that has ever been drawn, and it is essentially true."—*The Times*.

Illustrated Edition of PROFESSOR AYTOUN'S

LAYS OF THE SCOTTISH CAVALIERS.

The Designs by J. NOEL PATON, R.S.A. Engraved on Wood by JOHN THOMPSON, W. J. LINTON, W. THOMAS, J. W. WHYMPER, J. COOPER, W. T. GREEN, DALZIEL BROTHERS, E. EVANS, J. ADAM, &c. Small quarto, printed on toned paper, bound in gilt cloth, price 21s.

"The artists have excelled themselves in the engravings which they have furnished. Seizing the spirit of Mr Aytoun's 'Ballads' as perhaps none but Scotchmen could have seized it, they have thrown their whole strength into the work with a heartiness which others would do well to imitate. Whoever there may be that does not already know these 'Lays,' we recommend at once to make their acquaintance in this edition, wherein author and artist illustrate each other as kindred spirits should."—*Standard*.

CAXTONIANA:

A Series of Essays on LIFE, LITERATURE, and MANNERS. By SIR EDWARD BULWER LYTTON, Bart. Two vols. crown octavo, price 21s.

"It would be very possible to fill many pages with the wise bright things of these volumes."—*Eclectic*.

"Gems of thought, set upon some of the most important subjects that can engage the attention of men."—*Daily News*.

THE CAIRNGORM MOUNTAINS.

By JOHN HILL BURTON. In crown octavo, price 3s. 6d.

"One of the most complete as well as most lively and intelligent bits of reading that the lover of works of travel has seen for many a day."—*Saturday Review*.

ESSAYS ON SOCIAL SUBJECTS.

From the 'Saturday Review.' First and Second Series, crown octavo, 7s. 6d. each.

"In their own way of simple, straightforward reflection upon life, the present century has produced no essays better than these."—*Examiner*.

sider 75° quite sufficient to keep the roots healthy through these dull months. In olden times, when every sucker potted in autumn was deprived of its black and lifeless roots in spring, it was considered that pines lost all their previous year's roots in the common course of nature. But there is no doubt whatever that the real cause of the evil arose from the common rule of renewing the beds in which the pines were plunged at the fall of the leaf, the consequence of which was a degree of bottom-heat which pine roots cannot bear and live. The good pine-grower of the present time is not satisfied if, when September-potted suckers are shifted in early spring, their roots are not white and full of life, instead of black and shrivelled.

Under ordinary circumstances I would recommend that the suckers now being treated of should be kept quiet from the middle of November till the middle of February, and not encouraged to grow. To rest them thus a temperature of 55° is preferable to 60°, unless during very mild weather, but 60° should never be exceeded. The atmosphere should be dry rather than otherwise; and I have very rarely found that, when grown on a bed of leaves and tan, during these months they ever require any water at the root. The tan in which the pots are plunged is generally moist enough for the maintenance of pine roots in a healthy condition, and the soil in the pots is regulated as to moisture at this season by the state of the plunging material. Where the bottom-heat is supplied with hot-water pipes in air chambers or tanks, the plants may require an occa-

RECENT PUBLICATIONS.

CONTRIBUTIONS TO NATURAL HISTORY,

CHIEFLY IN RELATION TO THE FOOD OF THE PEOPLE. By a RURAL D.D.
Crown octavo, price 6s.

"What with mussels, oysters, herring, salmon, and the many other fish which can be raised by human care, it seems as if a boundless food-producing province was added to the world; and the 'Rural D.D.' has certainly done good service in helping to spread information about it amongst his countrymen."—*Saturday Review*.

"The volume contains several able and instructive papers on the abundance of food which is contained in our rivers and seas, and the best means of making it available for our under-fed population."—*Morning Post*.

ADVANCED TEXT-BOOK OF PHYSICAL GEOGRAPHY.

By DAVID PAGE, F.R.S.E. F.G.S., Author of 'Introductory and Advanced Text-Books of Geology,' &c. Crown octavo, with a Glossary of Terms and numerous Illustrations, price 5s.

"Mr Page's volume is aptly entitled, and meets the wants of earnest and systematic students."—*Athenæum*.

"A thoroughly good text-book of Physical Geography."—*Saturday Review*.

THE SCOT ABROAD,

AND THE ANCIENT LEAGUE WITH FRANCE. By JOHN HILL BURTON,
Author of the 'Book-Hunter,' &c. Two volumes, crown octavo, in Roxburghe binding, price 15s.

"Mr Burton's lively and interesting 'Scot Abroad,' not the least valuable of his contributions to the historical literature of his country."—*Quarterly Review*.

"An excellent book, that will interest Englishmen and fascinate Scotchmen."—*Times*.

"No amount of selections, detached at random, can give an adequate idea of the varied and copious results of reading which are stored up in the compact and pithy pages of 'The Scot Abroad.'"—*Saturday Review*.

"A charming book."—*Spectator*.

THE GREAT GOVERNING FAMILIES OF ENGLAND.

By J. LANGTON SANFORD and MEREDITH TOWNSEND. Two Volumes,
octavo, price £1, 8s. in extra binding, with richly gilt cover.

"In the 'Great Governing Families of England' we have a really meritorious compilation. The spirit in which it is conceived, the care expended on the collection and arrangement of the material out of which the various memoirs are fashioned, and the vigorous and sometimes picturesque statement which relieves the drier narrative portions, place it high above the ordinary range of biographical reference books."—*Fortnightly Review*.

"We have here a work which may be considered the foundation of a *Libro d'Ore* for England. Its contents originally appeared in the form of a series of detached papers contributed to the columns of the 'Spectator.' The authors have, however, conferred a signal boon on the public by the issue of their work in this durable form. It is an exceedingly interesting and useful work."—*John Bull*.

BIOGRAPHICAL SKETCHES OF EMINENT

SOLDIERS OF THE LAST FOUR CENTURIES. By the late MAJOR-GENERAL JOHN MITCHELL, Author of 'Life of Wallenstein,' the 'Fall of Napoleon,' &c. Edited, with a Memoir of the Author, by LEONHARD SCHMITZ, LL.D.
In post octavo, price 9s.

LIST OF BOOKS

PUBLISHED BY

WILLIAM BLACKWOOD & SONS,

EDINBURGH AND LONDON.

THE HISTORY OF EUROPE,

FROM THE COMMENCEMENT OF THE FRENCH REVOLUTION IN 1789 TO THE
BATTLE OF WATERLOO.

By Sir ARCHIBALD ALISON, Bart., D.C.L.

A New Library Edition (being the tenth). In 14 Vols. Demy Octavo, with Portraits,
and a copious Index, £10, 10s.

In this Edition, which has been revised and corrected with the utmost diligence, care has been taken to interweave with the original text the new facts which have been brought to light since the last edition was published. It is believed that the Work will be found in all respects brought up to the latest authentic information that has appeared, on the epoch of which it treats.

Crown Octavo Edition, 20 vols., £8. People's Edition, 12 vols., closely printed in double columns, £2, 8s., and Index Volume, 3s.

EXTRACTS FROM REVIEWS OF THIS WORK.

Times, Sept. 7, 1850.

"An extraordinary work, which has earned for itself a lasting place in the literature of the country, and within a few years found innumerable readers in every part of the globe. There is no book extant that treats so well of the period to the illustration of which Mr Alison's labours have been devoted. It exhibits great knowledge, patient research, indefatigable industry, and vast power."

Edinburgh Review.

"There is much in Mr Alison's history of the French Revolution against which we intend to record our decided protest; and there are some parts of it which we shall feel compelled to notice with strong disapprobation. We, therefore, hasten to preface our less favourable remarks by freely acknowledging that the present work is, upon the whole, a valuable addition to European literature, that it is evidently compiled with the utmost care, and that its narration, so far as we can judge, is not perverted by the slightest partiality."

From Preface of the German Translation by D. Ludwig Meyer.

"Alison's *History of Europe*, and the states connected with it, is one of the most important works which literature has produced. Years have elapsed since any historical work has created such an epoch as that of Alison: his sources of information and authorities are of the richest and most comprehensive description. Though his opinions are on the Conservative side, he allows every party to speak for itself, and unfolds with a master's hand how far institutions make nations great, and mighty, and prosperous."

HISTORY AND BIOGRAPHY

Continuation of the History of Europe, from the Fall of Napoleon to the Accession of Louis Napoleon. By Sir ARCHIBALD ALISON, Bart., D.C.L. In Nine Vols., £8, 7s. 6d. Uniform with the Library Edition of the Author's "History of Europe, from the Commencement of the French Revolution." People's Edition, Eight Vols. Crown Octavo, 34s.

Epitome of Alison's History of Europe. Fourteenth Edition, 7s. 6d., bound.

Atlas to Alison's History of Europe ; containing 109 Maps and Plans of Countries, Battles, Sieges, and Sea-Fights. Constructed by A. KEITH JOHNSTON, F.R.S.E. With Vocabulary of Military and Marine Terms. Library Edition, £3, 3s. ; People's Edition, £1, 11s. 6d.

Lives of Lord Castlereagh and Sir Charles Stewart, Second and Third Marquesses of Londonderry. By Sir ARCHIBALD ALISON, Bart., D.C.L. From the Original Papers of the Family, and other sources. In Three Vols. Octavo. £2, 5s.

Life of John Duke of Marlborough. With some Account of his Contemporaries, and of the War of the Succession. By Sir ARCHIBALD ALISON, Bart., D.C.L. Third Edition, Two Volumes, Octavo, Portraits and Maps, 30s.

Essays ; Historical, Political, and Miscellaneous. By Sir ARCHIBALD ALISON, Bart. Three Vols. Demy Octavo, 45s.

The Invasion of the Crimea : its Origin, and an Account OF ITS PROGRESS DOWN TO THE DEATH OF LORD RAGLAN. By ALEXANDER WILLIAM KINGLAKE, M.P. Vols. I. and II., bringing the EVENTS down to the CLOSE of the BATTLE of the ALMA. Price 32s. To be completed in Four Volumes Octavo. Fourth Edition.

The Boscobel Tracts ; Relating to the Escape of Charles the Second after the Battle of Worcester, and his subsequent Adventures. Edited by J. HUGHES, Esq., A.M. A New Edition, with additional Notes and Illustrations, including Communications from the Rev. R. H. BARHAM, Author of the "Ingoldsby Legends." In Octavo, with Engravings, 16s.

" 'The Boscobel Tracts' is a very curious book, and about as good an example of single subject historical collections as may be found. Originally undertaken, or at least completed at the suggestion of the late Bishop Copplestone, in 1827, it was carried out with a degree of judgment and taste not always found in works of a similar character. The subject, as the title implies, is the escape of Charles the Second after the battle of Worcester."—*Spectator*.

History of Scotland from the Revolution to the Extinction of the last Jacobite Insurrection, 1689—1748. By JOHN HILL BURTON, Esq., Advocate. Two Vols. Octavo, 15s.

PUBLISHED BY W. BLACKWOOD AND SONS,

HISTORY AND BIOGRAPHY

The Autobiography of the Rev. Dr Alexander Carlyle,
Minister of Inveresk. Containing Memorials of the Men and Events of his
Time. Edited by JOHN HILL BURTON. In Octavo. Third Edition, with Por-
trait, 14s.

"This book contains by far the most vivid picture of Scottish life and manners that has been given to the public since the days of Sir Walter Scott. In bestowing upon it this high praise, we make no exception, not even in favour of Lord Cockburn's *Memorials*—the book which resembles it most, and which ranks next to it in interest."—*Edinburgh Review*.

"A more delightful and graphic picture of the everyday life of our ancestors it has never been our good fortune to meet with. . . . We do not often pray for autobiographies—for, as a class of literature, they are of very unequal merit—but we shall heartily rejoice to see as many more autobiographies as possible if they are half as well worth reading as *Jupiter Carlyle's*."—*National Review*.

"A more racy volume of memoirs was never given to the world—nor one more difficult to set forth—save by the true assertion, that there is scarcely a page which does not contain matter for extract or which would not bear annotation."—*Athenæum*.

Life of the late Rev. James Robertson, D.D., F.R.S.E.,
Professor of Divinity and Ecclesiastical History in the University of Edinburgh.
By the Rev. A. H. CHARTERIS, M.A. With a Portrait. Octavo, price 10s. 6d.

Memoir of the Political Life of the Right Honourable
EDMUND BURKE, with Extracts from his Writings. By the Rev. GEORGE CROLY,
D.D., Rector of St Stephen's, Walbrook, London. 2 vols. Post Octavo, 18s.

History of Greece under Foreign Domination. By George
FINLAY, LL.D., Athens. Seven Volumes, Octavo—viz.:

Greece under the Romans. B.C. 146 to A.D. 717. A Historical
View of the Condition of the Greek Nation from its Conquest by the Romans
until the Extinction of the Roman Power in the East. Second Edition, 16s.

History of the Byzantine Empire. A.D. 716 to 1204; and of
the Greek Empire of Nicæa and Constantinople, A.D. 1204 to 1453. Two
Volumes, £1, 7s. 6d.

Mediæval Greece and Trebizond. The History of Greece, from
its Conquest by the Crusaders to its Conquest by the Turks, A.D. 1204 to
1566; and the History of the Empire of Trebizond, A.D. 1204 to 1461. 12s.

Greece under Othoman and Venetian Domination. A.D. 1453
to 1821. 10s. 6d.

History of the Greek Revolution.
Two Volumes, Octavo, £1, 4s.

"His book is worthy to take its place among the remarkable works on Greek history which form one of the chief glories of English scholarship. The history of Greece is but half told without it."—*London Guardian*.

"His work is therefore learned and profound. It throws a flood of light upon an important though obscure portion of Grecian history. . . . In the essential requisites of fidelity, accuracy, and learning, Mr Finlay bears a favourable comparison with any historical writer of our day."—*North American Review*.

EDINBURGH AND LONDON.

HISTORY AND BIOGRAPHY

Essays in History and Art. By R. H. Patterson.

COLOUR IN NATURE AND ART.
REAL AND IDEAL BEAUTY.
SCULPTURE.
ETHNOLOGY OF EUROPE.
UTOPIAS.
OUR INDIAN EMPIRE.
THE NATIONAL LIFE OF CHINA.
AN IDEAL ART CONGRESS.

BATTLE OF THE STYLES.
GENIUS AND LIBERTY.
YOUTH AND SUMMER.
RECORDS OF THE PAST; NINEVEH AND
BABYLON.
INDIA: ITS CASTES AND CREEDS.
"CHRISTOPHER NORTH"—IN MEMORIAM.

In One Volume, Octavo. 12s.

The New "Examen;" or, An Inquiry into the Evidence of certain Passages in "Macaulay's History of England" concerning

THE DUKE OF MARLBOROUGH.
THE MASSACRE OF GLENCOE.
THE HIGHLANDS OF SCOTLAND.

VISCOUNT DUNDEE.
WILLIAM PENN.

By JOHN PAGET, Esq., Barrister-at-Law. In Crown Octavo, 6s.

Curran and his Contemporaries. By Charles Phillips, Esq., A.B. A New Edition. Crown Octavo, 7s. 6d.

"Certainly one of the most extraordinary pieces of biography ever produced. . . . No library should be without it."—*Lord Brougham*.

"Never, perhaps, was there a more curious collection of portraits crowded before into the same canvass."—*Times*.

Paris after Waterloo. A Revised Edition of a "Visit to Flanders and the Field of Waterloo." By JAMES SIMPSON, Advocate. With Two Coloured Plans of the Battle. Crown Octavo, 5s.

Lives of the Queens of Scotland, and English Princesses connected with the Regal Succession of Great Britain. By AGNES STRICKLAND. With Portraits and Historical Vignettes. Post Octavo, £4, 4s.

"Every step in Scotland is historical; the shades of the dead arise on every side; the very rocks breathe. Miss Strickland's talents as a writer, and turn of mind as an individual, in a peculiar manner fit her for painting a historical gallery of the most illustrious or dignified female characters in that land of chivalry and song."—*Blackwood's Magazine*.

Life of Mary Queen of Scots. By Agnes Strickland. 5 vols. post 8vo, with Portraits and other Illustrations, £2, 12s. 6d.

Studies in Roman Law. With Comparative Views of the Laws of France, England, and Scotland. By LORD MACKENZIE, one of the Judges of the Court of Session in Scotland. Second Edition, Octavo, 12s.

PUBLISHED BY W. BLACKWOOD AND SONS,

HISTORY AND BIOGRAPHY

Letters of Eminent Persons, addressed to David Hume.

Edited by JOHN HILL BURTON, Esq., Advocate. Octavo, 5s.

Lectures on the History of the Church of Scotland, from

the Reformation to the Revolution Settlement. By the Very Rev. JOHN LEE, D.D., LL.D., Principal of the University of Edinburgh. Edited by the Rev. WILLIAM LEE. Two Vols. Octavo, 21s.

Works of the Rev. Thomas M'Crie, D.D.

A New and Uniform Edition. Edited by Professor M'CRIE. Four Volumes, Crown Octavo, 24s. Sold separately, — viz. :

Life of John Knox. Containing Illustrations of the History of the Reformation in Scotland. Crown Octavo, 6s.

Life of Andrew Melville. Containing Illustrations of the Ecclesiastical and Literary History of Scotland in the Sixteenth and Seventeenth Centuries. Crown Octavo, 6s.

History of the Progress and Suppression of the Reformation in Italy in the Sixteenth Century. Crown Octavo, 4s.

History of the Progress and Suppression of the Reformation in Spain in the Sixteenth Century. Crown Octavo, 3s. 6d.

Sermons, and Review of the "Fables of my Landlord."
In One Volume, Crown Octavo, 6s.

The Monks of the West, from St Benedict to St Bernard.

By the COUNT DE MONTALEMBERT. *Authorised Translation.* Two Volumes, Octavo, 21s.

"We must, however, say a word of praise for the anonymous translator, who has done his work throughout in a very creditable manner."—*Spectator.*

"If this version had reached us earlier it might have saved us some trouble, as, on a comparison of our own extracts with the corresponding passages, we have found it to be, in general, both faithful and spirited, so that we should have been glad for the most part to make use of the translator's words instead of doing the work for ourselves."—*Quarterly Review.*

The Conquest of Scinde. A Commentary. By General Sir

JAMES OUTRAM, C.B. Octavo, 18s.

An Essay on the National Character of the Athenians.

By JOHN BROWN PATTERSON. Edited from the Author's revision, by Professor PILLANS, of the University of Edinburgh. With a Sketch of his Life. Crown Octavo, 4s. 6d.

The New Revolution ; or, the Napoleonic Policy in Europe.

By R. H. PATTERSON. Octavo, 4s.

EDINBURGH AND LONDON.

HISTORY AND BIOGRAPHY

Ten Years of Imperialism in France. Impressions of a "Flâneur." In Octavo, price 9s.

"There has not been published for many a day a more remarkable book on France than this, which professes to be the impressions of a Flâneur. . . . It has all the liveliness and sparkle of a work written only for amusement ; it has all the solidity and weight of a State paper ; and we expect for it not a little political influence as a fair, full, and masterly statement of the Imperial policy—the first and only good account that has been given to Europe of the Napoleonic system now in force."—*Times*.

Memorials of the Castle of Edinburgh. By James Grant, Esq. A New Edition. In Crown Octavo, with 12 Engravings, 3s. 6d.

Memoirs and Adventures of Sir William Kirkcaldy of Grange, Governor of the Castle of Edinburgh for Mary Queen of Scots. By JAMES GRANT, Esq. Post Octavo, 10s. 6d.

"It is seldom, indeed, that we find history so written, in a style at once vigorous, perspicuous, and picturesque. The author's heart is thoroughly with his subject."—*Blackwood's Magazine*.

Memoirs and Adventures of Sir John Hepburn, Marshal of France under Louis XIII., &c. By JAMES GRANT, Esq. Post Octavo, 8s.

Annals of the Peninsular Campaigns. By Capt. Thomas HAMILTON. A New Edition. Edited by F. HARDMAN, Esq. Octavo, 16s. ; and Atlas of Maps to illustrate the Campaigns, 12s.

The Story of the Campaign of Sebastopol. Written in the Camp. By Lieut.-Col. E. BRUCE HAMLEY. With Illustrations drawn in Camp by the Author. Octavo, 21s.

"We strongly recommend this 'Story of the Campaign' to all who would gain a just comprehension of this tremendous struggle. Of this we are perfectly sure, it is a book unlikely to be ever superseded. Its truth is of that simple and startling character which is sure of an immortal existence ; nor is it paying the gallant author too high a compliment to class this masterpiece of military history with the most precious of those classic records which have been bequeathed to us by the great writers of antiquity who took part in the wars they have described."—*The Press*.

Wellington's Career ; a Military and Political Summary. By Lieut.-Col. E. BRUCE HAMLEY, Professor of Military History and Art at the Staff College. Crown Octavo, 2s.

Fleets and Navies. By Captain Charles Hamley, R.M. Originally published in *Blackwood's Magazine*. Crown Octavo, 6s.

Memoir of Mrs Hemans. By her Sister. With a Portrait. Foolscap Octavo, 5s.

PUBLISHED BY W. BLACKWOOD AND SONS,

HISTORY AND BIOGRAPHY

Leaders of the Reformation: Luther, Calvin, Latimer, and KNOX. By the Rev. JOHN TULLOCH, D.D., Principal, and Primarius Professor of Theology, St Mary's College, St Andrews. Second Edition, Crown Octavo, 6s. 6d.

"We are not acquainted with any work in which so much solid information upon the leading aspects of the great Reformation is presented in so well-packed and pleasing a form."—*Witness*.

"The style is admirable in force and in pathos, and the book one to be altogether recommended, both for the merits of those of whom it treats, and for that which the writer unconsciously reveals of his own character."—*Globe*.

English Puritanism and its Leaders: Cromwell, Milton, BAXTER, and BUNYAN. By the Rev. JOHN TULLOCH, D.D. Uniform with the "Leaders of the Reformation." 7s. 6d.

"His biographic delineations are not collections of vague generalities, but well-selected features combining to a likeness. And, while always self-possessed and calm, he is never cold. A steady glow of imaginative fire and radiance follows his pen, and it is evident that he has legitimately acquired the right to interest and move others, by having first been moved himself."—*Dial*.

"It is a book which, from its style—firm and interesting, dispassionate and impartial, but yet warm with admiration—will be hailed for fireside reading in the families of the descendants of those Puritan men and their times."—*Eclectic Review*.

History of the French Protestant Refugees. By Charles WEISS, Professor of History at the Lycée Buonaparté. Translated by F. HARDMAN, Esq. Octavo, 14s.

The Eighteen Christian Centuries. By the Rev. James WHITE. Fourth Edition, with Analytical Table of Contents, and a Copious Index. Post Octavo, 7s. 6d.

"He goes to work upon the only true principle, and produces a picture that at once satisfies truth, arrests the memory, and fills the imagination. When they (Index and Analytical Contents) are supplied, it will be difficult to lay hands on any book of the kind more useful and more entertaining."—*Times*, Review of first edition.

"Mr White comes to the assistance of those who would know something of the history of the Eighteen Christian Centuries; and those who want to know still more than he gives them, will find that he has perfected a plan which catches the attention, and fixes the distinctive feature of each century in the memory."—*Wesleyan Times*.

History of France, from the Earliest Period to the Year 1848. By the Rev. JAMES WHITE, Author of the "Eighteen Christian Centuries." Second Edition. Post Octavo, 9s.

"Mr White's 'History of France,' in a single volume of some 600 pages, contains every leading incident worth the telling, and abounds in word-painting whereof a paragraph has often as much active life in it as one of those inch-square etchings of the great Callot, in which may be clearly seen the whole armies contending in bloody arbitrament, and as many incidents of battle as may be gazed at in the miles of canvass in the military picture-galleries at Versailles."—*Athenæum*.

"An excellent and comprehensive compendium of French history, quite above the standard of a school-book, and particularly well adapted for the libraries of literary institutions."—*National Review*.

EDINBURGH AND LONDON.

POETRY

Lays of the Scottish Cavaliers, and other Poems. By

W. EDMONDSTOUNE AYTOUN, D.C.L., Professor of Rhetoric and Belles-Lettres in the University of Edinburgh. Fourteenth Edition, Foolsap Octavo, 7s. 6d.

"Mr Aytoun's 'Lays' are truly beautiful, and are perfect poems of their class, pregnant with fire, with patriotic ardour, with loyal zeal, with exquisite pathos, with noble passion. Who can hear the opening lines descriptive of Edinburgh after the great battle of Flodden, and not feel that the minstrel's soul has caught the genuine inspiration?"—*Morning Post*.

"Professor Aytoun's 'Lays of the Scottish Cavaliers'—a volume of verse which shows that Scotland has yet a poet. Full of the true fire, it now stirs and swells like a trumpet-note—now sinks in cadences sad and wild as the wail of a Highland dirge."—*Quarterly Review*.

Aytoun's Lays of the Scottish Cavaliers. An Illustrated

Edition. From Designs by J. NOEL PATON and W. H. PATON, A.R.S.A. Engraved by John Thompson, W. J. Linton, W. Thomas, Whympier, Cooper, Green, Dalziels, Evans, &c. In Small Quarto, printed on Toned Paper, bound in gilt cloth, 21s.

"The artists have excelled themselves in the engravings which they have furnished. Seizing the spirit of Mr Aytoun's 'Ballads' as perhaps none but Scotchmen could have seized it, they have thrown their whole strength into the work with a heartiness which others would do well to imitate. Whoever there may be that does not already know these 'Lays' we recommend at once to make their acquaintance in this edition, wherein author and artist illustrate each other as kindred spirits should."—*Standard*.

Bothwell: A Poem. By W. Edmondstounie Aytoun, D.C.L.,

Professor of Rhetoric and Belles-Lettres in the University of Edinburgh. Third Edition. Foolsap Octavo, 7s. 6d.

"A noble poem, healthy in tone and purely English in language, and closely linked to the historical traditions of his native country."—*John Bull*.

"Professor Aytoun has produced a fine poem and an able argument, and 'Bothwell' will assuredly take its stand among the classics of Scottish literature."—*The Press*.

The Ballads of Scotland. Edited by Professor Aytoun.

Second Edition. Two Volumes, Foolsap Octavo, 12s.

"No country can boast of a richer collection of Ballads than Scotland, and no Editor for these Ballads could be found more accomplished than Professor Aytoun. He has sent forth two beautiful volumes which range with Percy's 'Reliques'—which, for completeness and accuracy, leave little to be desired—which must henceforth be considered as the standard edition of the Scottish Ballads, and which we commend as a model to any among ourselves who may think of doing like service to the English Ballads."—*The Times*.

Poems and Ballads of Goethe. Translated by Professor

AYTOUN and THEODORE MARTIN. Second Edition, Foolsap Octavo, 6s.

"There is no doubt that these are the best translations of Goethe's marvellously-cut gems which have yet been published."—*The Times*.

The Book of Ballads. Edited by Bon Gaultier. Eighth

Edition, with numerous Illustrations, by DOYLE, LEECH, and CROWQUILL. Gilt Edges, Post Octavo, 8s. 6d.

Firmilian, or the Student of Badajoz. A Spasmodic

Tragedy. By T. PERCY JONES. In Small Octavo, 5s.

"Humour of a kind most rare at all times, and especially in the present day, runs through every page, and passages of true poetry and delicious versification prevent the continual play of sarcasm from becoming tedious."—*Literary Gazette*.

PUBLISHED BY W. BLACKWOOD AND SONS,

P O E T R Y

Poetical Works of Thomas Aird. Complete Edition, in
One Volume, Foolsap Octavo, 6s.

"Mr Aird is a poet of a very high class, and in that class he occupies no mean or middling place. His imagination is lofty, his invention fertile, his sentiments heroic, and his language generally clear and forcible."—*Scotsman*.

Poems. By the Lady Flora Hastings. Edited by her
SISTER. Second Edition, with a Portrait. Foolsap, 7s. 6d.

The Poems of Felicia Hemans. Complete in one Volume,
Royal Octavo, with Portrait by Finden, Cheap Edition, 12s. 6d. *Another Edition,*
with MEMOIR by her SISTER, Seven Volumes, Foolsap, 35s. *Another Edition,*
in Six Volumes, cloth, gilt edges, 24s.

"Of no modern writer can it be affirmed with less hesitation, that she has become an English classic; nor, until human nature becomes very different from what it now is, can we imagine the least probability that the music of her lays will cease to soothe the ear, or the beauty of her sentiment to charm the gentle heart.—*Blackwood's Magazine*.

The following Works of Mrs HEMANS are sold separately, bound in cloth, gilt edges,
4s. each :—

RECORDS OF WOMAN.
FOREST SANCTUARY.
SONGS OF THE AFFECTIONS.

DRAMATIC WORKS.
TALES AND HISTORIC SCENES.
MORAL AND RELIGIOUS POEMS.

The Odyssey of Homer. Translated into English Verse in
the Spenserian Stanza. By PHILIP STANHOPE WORSLEY, M.A., Scholar of
Corpus Christi College. Two Volumes, Crown Octavo, 18s.

Poems and Translations. By P. S. Worsley, M.A.,
Scholar of Corpus Christi College, Oxford. Foolsap Octavo, 5s.

Poetical Works of D. M. Moir (Delta). With Portrait, and
Memoir by THOMAS AIRD. Second Edition. Two Volumes, Foolsap Octavo, 12s.

Translations by Theodore Martin :

Goethe's Faust. Second Edition, Crown Octavo, 6s.

The Odes of Horace. With Life and Notes. Second Edition,
Post 8vo, 9s.

Catullus. With Life and Notes. Post 8vo, 6s. 6d.

The Vita Nuova of Dante. With an Introduction and Notes.
Square 8vo, 7s. 6d.

Aladdin: A Dramatic Poem. By Adam Oehlenschlaeger.
Foolsap Octavo, 5s.

Correggio: A Tragedy. By Oehlenschlaeger. With Notes.
Foolsap Octavo, 3s.

King Rene's Daughter: A Danish Lyrical Drama. By
HENRIK HERTZ. Second Edition, Foolsap, 2s. 6d.

EDINBURGH AND LONDON.

POETRY

The Course of Time: A Poem. In Ten Books. By Robert

POLLOK, A.M. Twenty-third Edition, Foolscap Octavo, 5s.

"Of deep and hallowed impress, full of noble thoughts and graphic conceptions—the production of a mind alive to the great relations of being, and the sublime simplicity of our religion."
—*Blackwood's Magazine*.

An Illustrated Edition of the Course of Time. In Large

Octavo, bound in cloth, richly gilt, 21s.

"There has been no modern poem in the English language, of the class to which the 'Course of Time' belongs, since Milton wrote, that can be compared to it. In the present instance the artistic talents of Messrs FOSTER, CLAYTON, TENNIEL, EVANS, DALZIEL, GREEN, and WOODS, have been employed in giving expression to the sublimity of the language, by equally exquisite illustrations, all of which are of the highest class."—*Bell's Messenger*.

Poems and Ballads of Schiller. Translated by Sir Edward

BULWER LYTTON, Bart. Second Edition, Octavo, 10s. 6d.

"The translations are executed with consummate ability. The technical difficulties attending a task so great and intricate have been mastered or eluded with a power and patience quite extraordinary; and the public is put in possession of perhaps the best translation of a foreign poet which exists in our language. Indeed, we know of none so complete and faithful."—*Morning Chronicle*.

St Stephens; Or, Illustrations of Parliamentary Oratory.

A Poem. *Comprising*—Pym—Vane—Strafford—Halifax—Shaftesbury—St John—Sir R. Walpole—Chesterfield—Carteret—Chatham—Pitt—Fox—Burke—Sheridan—Wilberforce—Wyndham—Conway—Castlereagh—William Lamb (Lord Melbourne)—Tierney—Lord Grey—O'Connell—Plunkett—Shiel—Follett—Macaulay—Peel. Second Edition. Crown Octavo, 5s.

Illustrations of the Lyric Poetry and Music of Scotland.

By WILLIAM STENHOUSE. Originally compiled to accompany the "Scots Musical Museum," and now published separately, with Additional Notes and Illustrations. Octavo, 7s. 6d.

The Birthday, and other Poems. By Mrs Southey. Second

Edition, 5s.

Professor Wilson's Poems, Containing the "Isle of

Palms," the "City of the Plague," "Unimore," and other Poems. Complete Edition, Crown Octavo, 6s.

Poems and Songs. By David Wingate. In Fcap. Octavo.

5s.

"It contains genuine poetic ore, poems which win for their author a place among Scotland's true sons of song, and such as any man in any country might rejoice to have written."—*London Review*.

"We are delighted to welcome into the brotherhood of real poets a countryman of Burns, and whose verse will go far to render the rougher Border Scottish a classic dialect in our literature."
—*John Bull*.

PUBLISHED BY W. BLACKWOOD AND SONS,

WORKS OF FICTION

Tales from "Blackwood." Complete in Twelve Volumes,
Bound in cloth, 18s. The Volumes are sold separately, 1s. 6d., and may be had
of most Booksellers, in Six Volumes, handsomely half-bound in red morocco.

CONTENTS.

- VOL. I.** The Glenmutchkin Railway.—Vanderdecken's Message Home.—The Floating Beacon.—Colonna the Painter.—Napoleon.—A Legend of Gibraltar.—The Iron Shroud.
- VOL. II.** Lazaro's Legacy.—A Story without a Tail.—Faustus and Queen Elizabeth.—How I became a Yeoman.—Devereux Hall.—The Metempsychosis.—College Theatricals.
- VOL. III.** A Reading Party in the Long Vacation.—Father Tom and the Pope.—La Petite Madelaine.—Bob Burke's Duel with Ensign Brady.—The Headman: A Tale of Doom.—The Wearyful Woman.
- VOL. IV.** How I stood for the Dreepdaily Burghs.—First and Last.—The Duke's Dilemma: A Chronicle of Niesenstein.—The Old Gentleman's Testotum.—"Woe to us when we lose the Watery Wall."—My College Friends: Charles Russell, the Gentleman Commoner.—The Magic Lay of the One-Horse Chay.
- VOL. V.** Adventures in Texas.—How we got possession of the Tuilleries.—Captain Paton's Lament.—The Village Doctor.—A Singular Letter from Southern Africa.
- VOL. VI.** My Friend the Dutchman.—My College Friends—No. II.: Horace Leicester.—The Emerald Studs.—My College Friends—No. III.: Mr W. Wallington Hurst.—Christine: A Dutch Story.—The Man in the Bell.
- VOL. VII.** My English Acquaintance.—The Murderer's Last Night.—Narration of Certain Uncommon Things that did formerly happen to Me, Herbert Willis, B.D.—The Wags.—The Wet Wooling: A Narrative of '98.—Ben-na-Groich.
- VOL. VIII.** The Surveyor's Tale. By Professor Aytoun.—The Forrest-Race Romance.—Di Vasari: A Tale of Florence.—Sigismund Fatello.—The Boxes.
- VOL. IX.** Rosaura: A Tale of Madrid.—Adventure in the North-West Territory.—Harry Bolton's Curacy.—The Florida Pirate.—The Pandour and his Princess.—The Beauty Draught.
- VOL. X.** Antonio di Carara.—The Fatal Repast.—The Vision of Cagliostro.—The First and Last Kiss.—The Smuggler's Leap.—The Haunted and the Haunters.—The Duellists.
- VOL. XI.** The Natolian Story-Teller.—The First and Last Crime.—John Rintoul.—Major Moss.—The Premier and his Wife.
- VOL. XII.** Tickler among the Thieves!—The Bridegroom of Barna.—The Involuntary Experimentalist.—Lebrun's Lawsuit.—The Snowing-up of Strath Lugas.—A Few Words on Social Philosophy.

Jessie Cameron: A Highland Story. By the Lady Rachel
BUTLER. Second Edition. Small Octavo, with a Frontispiece, 2s. 6d.

The Old Bachelor in the Old Scottish Village. By Thomas
AIRD. Foolscep Octavo, 4s.

"It is simply a series of village sketches of character, manners, and scenery, but the book is full of a quiet sustained humour, genuine pathos, simple unaffected poetry, and displays not only fine imaginative power, but a hearty sympathy with nature in all her aspects, and with the simple tastes and pleasures of rustic life. A more delightful book we cannot imagine."—*Manchester Advertiser*.

Tara: A Mahratta Tale. By Captain Meadows Taylor.
3 vols., Post Octavo, £1, 11s. 6d.

"A picture of Indian life which it is impossible not to admire. We have no hesitation in saying, that a more perfect knowledge of India is to be acquired from an attentive perusal and study of this work, than could be gleaned from a whole library."—*Press*.

EDINBURGH AND LONDON.

WORKS OF FICTION

Tom Cringle's Log. A New Edition, with Illustrations.

Crown Octavo, 6s.

Cheap Editions of Popular Works:

Lights and Shadows of Scottish Life. Foolscape 8vo, 3s. cloth.

The Trials of Margaret Lyndsay. By the Author of "Lights and Shadows of Scottish Life." Foolscape 8vo, 3s. cloth.

The Foresters. By the Author of "Lights and Shadows of Scottish Life." Foolscape 8vo, 3s. cloth.

Tom Cringle's Log. Complete in One Volume, Foolscape 8vo, 4s. cloth.

The Cruise of the Midge. By the Author of "Tom Cringle's Log." In One Volume, Foolscape 8vo, 4s. cloth.

The Life of Mansie Wauch, Tailor in Dalkeith. Foolscape 8vo, 3s. cloth.

The Subaltern. By the Author of "The Chelsea Pensioners." Foolscape 8vo, 3s. cloth.

Peninsular Scenes and Sketches. By the Author of "The Student of Salamanca." Foolscape 8vo, 3s. cloth.

Nights at Mess, Sir Frizzle Pumpkin, and other Tales. Foolscape 8vo, 3s. cloth.

The Youth and Manhood of Cyril Thornton. By the Author of "Men and Manners in America." Foolscape 8vo, 4s. cloth.

Valerius: A Roman Story. Foolscape 8vo, 3s. cloth.

Reginald Dalton. By the Author of "Valerius." Foolscape 8vo, 4s. cloth.

Some Passages in the Life of Adam Blair, and History of Matthew Wald. By the Author of "Valerius." Foolscape 8vo, 4s. cloth.

Annals of the Parish, and Ayrshire Legatees. By John Galt. Foolscape 8vo, 4s. cloth.

Sir Andrew Wyllie. By JOHN GALT. Foolscape 8vo, 4s. cloth.

The Provost, and other Tales. By JOHN GALT. Foolscape 8vo, 4s. cloth.

The Entail. By JOHN GALT. Foolscape 8vo, 4s. cloth.

Life in the Far West. By G. F. RUXTON. A New Edition. Foolscape 8vo, 4s. cloth.

Works of George Eliot. Library Edition:

Adam Bede. Two Vols., Foolscape Octavo, 12s.

The Mill on the Floss. Two Vols., Foolscape Octavo, 12s.

Scenes of Clerical Life. Two Vols., Foolscape Octavo, 12s.

Silas Marner. Foolscape Octavo, 6s.

The Same. Cheap Edition, each Complete in One Vol.,
price 6s.

Adam Bede.

The Mill on the Floss.

Scenes of Clerical Life, and Silas Marner.

PUBLISHED BY W. BLACKWOOD AND SONS,

WORKS OF FICTION

Works of Professor Wilson. Edited by his Son-in-Law,
PROFESSOR FERRIER. In Twelve Vols., Crown Octavo, £3, 12s.

Recreations of Christopher North. By Professor Wilson.
In Two Vols. New Edition, with Portrait, 8s.

"Welcome, right welcome, Christopher North; we cordially greet thee in thy new dress, thou genial and hearty old man, whose 'Ambrosian nights' have so often in imagination transported us from solitude to the social circle, and whose vivid pictures of flood and fell, of loch and glen, have carried us in thought from the smoke, din, and pent-up opulence of London, to the rushing stream or tranquil tarn of those mountain ranges," &c.—*Times*.

The Noctes Ambrosianæ. By Professor Wilson. With
NOTES and a GLOSSARY. In Four Vols., Crown Octavo, 16s.

Tales. By Professor Wilson. Comprising "The Lights
and Shadows of Scottish Life;" "The Trials of Margaret Lyndsay;" and "The
Foresters." In One Vol., Crown Octavo, 4s., cloth.

Essays, Critical and Imaginative. By Professor Wilson.
Four Vols., Crown Octavo, 24s.

Lady Lee's Widowhood. By Lieut.-Col. E. B. Hamley.
Crown Octavo, with 13 Illustrations by the Author. 6s.

"A quiet humour, an easy, graceful style, a deep, thorough confident knowledge of human nature in its better and more degrading aspects, a delicate and exquisite appreciation of womanly character, an admirable faculty of description, and great tact, are the qualities that command the reader's interest and respect from beginning to end of 'Lady Lee's Widowhood.'" —*The Times*.

Chronicles of Carlingford :

Salem Chapel. A New Edition, in one Vol., 5s.

The Rector, and The Doctor's Family. Do., 4s.

The Perpetual Curate. Do., 6s.

"We must pronounce this Carlingford series the best contribution to fiction of recent years—lively, pregnant, and rich in imagination, feeling, and eloquence. They will irresistibly carry to the end every reader who ventures upon them."—*Spectator*.

The Novels of John Galt—viz. :

Annals of the Parish.

The Steam Boat.

Sir Andrew Wylie.

The Entail, or the Lairds of Grippy.

Four Volumes, Foolscap Octavo, 4s. each.

EDINBURGH AND LONDON.

WORKS. OF FICTION

Complete Library Edition of Sir Edward Bulwer Lytton's

Novels. In Volumes of a convenient and handsome form. Printed from a large and readable type. Forty-one Vols. Foolsap Octavo, 5s. each.

"It is of the handiest of sizes; the paper is good; and the type, which seems to be new, is very clear and beautiful. There are no pictures. The whole charm of the presentment of the volume consists in its handiness, and the tempting clearness and beauty of the type, which almost converts into a pleasure the mere act of following the printer's lines, and leaves the author's mind free to exert its unobstructed force upon the reader."—*Examiner*.

"Nothing could be better as to size, type, paper, and general getting-up."—*Athenæum*.

Caxtoniana : A Series of Essays on Life, Literature, and

Manners. By SIR EDWARD BULWER LYTTON. Two Vols. Post Octavo, £1, 1s.

"Genes of thought set upon some of the most important subjects that can engage the attention of men. Except in one or two instances, they are so short that they will not tax the application of even lazy readers, yet there is not one of them that does not contain a lesson worthy of an abiding place on the handiest shelf of memory."—*Daily News*.

Katie Stewart : A True Story. By Mrs Oliphant. Fcap.

Octavo, with Frontispiece and Vignette, 4s.

"A singularly characteristic Scottish story, most agreeable to read and pleasant to recollect. The charm lies in the faithful and lifelike pictures it presents of Scottish character and customs, and manners and modes of life."—*Tait's Magazine*.

Chapters on Churchyards. By Mrs Southey. Second

Edition, Foolsap Octavo, 7s. 6d.

The Wonder Seeker, or the History of Charles Douglas.

By M. FRASER TYTLER, Author of 'Tales of the Great and Brave,' &c. A New Edition, Foolsap, 3s. 6d.

Works of Samuel Warren, D.C.L. Uniform Edition, Five

Volumes, Crown Octavo, 24s. :—

The Diary of a late Physician. One Vol., Crown Octavo, 5s. 6d.

Another Edition, in Two Vols., Foolsap, 12s. Also an *Illustrated Edition*, in Crown 8vo, handsomely printed, 7s. 6d.

Ten Thousand A-Year. Two Volumes, Crown Octavo, 9s. *Another*

Edition, in Three Volumes, Foolsap, 18s.

Now and Then. Crown Octavo, 2s. 6d. *Another Edition*, Foolsap, 6s.

Miscellanies. Crown Octavo, 5s.

The Lily and the Bee. Crown 8vo, 2s. *Another Edition*, Foolsap, 5s.

TRAVELS

Journal of the Discovery of the Source of the Nile. By

J. H. SPEKE, Captain H.M. Indian Army. Octavo, price 21s. With a Map of Eastern Equatorial Africa by CAPTAIN SPEKE; numerous Illustrations, chiefly from Drawings by CAPTAIN GRANT; and Portraits, engraved on Steel, of CAPTAINS SPEKE and GRANT.

"The volume which Captain Speke has presented to the world possesses more than a geographical interest. It is a monument of perseverance, courage, and temper displayed under difficulties which have perhaps never been equalled."—*Times*.

"Captain Speke has not written a noble book so much as he has done a noble deed. The volume which records his vast achievement is but the minor fact—the history of his discovery, not the discovery itself: yet even as a literary performance it is worthy of very high praise. It is wholly free from the traces of book manufacture. . . . It is, however, a great story that is thus plainly told: a story of which nearly all the interest lies in the strange facts related, and, more than all, in the crowning fact that it frees us in a large degree from a geographical puzzle which had excited the curiosity of mankind—of the most illustrious emperors and communities—from very early times."—*Athenæum*.

Narrative of the Earl of Elgin's Mission to China and

Japan. By LAURENCE OLIPHANT, Private Secretary to Lord Elgin. Illustrated with numerous Engravings in Chromo-Lithography, Maps, and Engravings on Wood, from Original Drawings and Photographs. Second Edition. In Two Volumes Octavo, 21s.

"The volumes in which Mr Oliphant has related these transactions will be read with the strongest interest now, and deserve to retain a permanent place in the literary and historical annals of our time."—*Edinburgh Review*.

Russian Shores of the Black Sea in the Autumn of 1852,

with a Voyage down the Volga and a Tour through the Country of the Don Cossacks. By LAURENCE OLIPHANT, Esq. Octavo, with Map and other Illustrations. Fourth Edition, 14s.

Minnesota and the Far West. By Laurence Oliphant.

Octavo, Illustrated with Engravings, 12s. 6d.

"It affords us increased knowledge of the extraordinary resources which await the emigrant at the head of the Great American Waters, and is a lively forecast of the prosperity of the States just emerging into existence in the Heart of the Wilderness. Mr Oliphant has foreseen great future events with a clear eye."—*The Times*.

The Transcaucasian Campaign of the Turkish Army under

Omer Pasha: A Personal Narrative. By LAURENCE OLIPHANT, Esq. With Map and Illustrations. Post Octavo, 10s. 6d.

Egypt, the Soudan, and Central Africa: With Explorations

from Khartoum on the White Nile to the Regions of the Equator. By JOHN PETHERICK, F.R.G.S., Her Britannic Majesty's Consul for the Soudan. In Octavo, with a Map, 16s.

Three Months in the Southern States. April—June 1863.

By LIEUT.-COL. FREMANTLE. With Portraits of PRESIDENT DAVIS, GENERALS POLK, LEE, LONGSTREET, BEAUREGARD, AND JOHNSTON. Crown Octavo, 7s. 6d.

"The whole of the book is as well worth reading as that published extract. It conveys a very fair idea of what manner of men they are who are now fighting in the South for their independence; and being written in a very unpretending style, it is both an agreeable and valuable glimpse of the interior of the Confederacy."—*Spectator*.

EDINBURGH AND LONDON.

TRAVELS

The Punjab and Delhi in 1857: Being a Narrative of the Measures by which the Punjab was saved and Delhi recovered during the Indian Mutiny. By the Rev. J. CAVE-BROWNE, Chaplain of the Punjab Movable Column. With Plans of the Chief Stations and of the different Engagements, and Portraits of Sir J. Lawrence, Bart., Sir H. Edwardes, Sir R. Montgomery, and Brig. Gen. J. Nicholson. Two Volumes, Post Octavo, 21s.

"To those who wish to possess a condensed narrative of the siege of Delhi, but especially of the heroic doings of the handful of Englishmen scattered throughout the Punjab, these volumes recommend themselves by their scrupulous accuracy, while to the future historian of the India of 1857 they will prove invaluable."—*Allen's Indian Mail*.

"This is a work which will well repay the trouble of perusal. Written by one who was himself present at many of the scenes he narrates, and who has had free access to the papers of Sir J. Lawrence, Sir R. Montgomery, and Sir H. Edwardes, it comes with all the weight of official authority, and all the vividness of personal narrative."—*Press*.

The Campaign of Garibaldi in the Two Sicilies: A Personal Narrative. By CHARLES STUART FORBES, Commander, R.N. Post Octavo, with Portraits, 12s.

"A volume which contains the best sketch hitherto published of the campaign which put an end to Bourbon rule in the Two Sicilies. It is accompanied with plans of the chief battles; and its honest unexaggerated record contrasts very favourably with the strained and showy account of the Garibaldians just published by M. Dumas."—*Examiner*.

Men and Manners in America. By Capt. Thos. Hamilton, With Portrait of the Author. Foolscep, 7s. 6d.

Notes on North America: Agricultural, Economical, and Social. By Professor J. F. W. JOHNSTON. Two Volumes, Post Octavo, 21s.

"Professor Johnston's admirable Notes. . . . The very best manual for intelligent emigrants, whilst to the British agriculturist and general reader it conveys a most complete conception of the condition of these prosperous region than all that has hitherto been written."—*Economist*.

Journal of a Tour in Greece and the Ionian Islands. By WILLIAM MURE of Caldwell. Two Volumes, Post Octavo, Maps and Plates, 24s.

A Cruise in Japanese Waters. By Capt. Sherard Osborn, C.B. Third Edition. Crown Octavo, 5s.

Life in the Far West. By G. F. Ruxton, Esq. Second Edition. Foolscep Octavo, 4s.

"One of the most daring and resolute of travellers. . . . A volume fuller of excitement is seldom submitted to the public."—*Athenæum*.

Narrative of a Journey through Syria and Palestine. By Lieut. VAN DE VELDE. Two Volumes Octavo, with Maps, &c., £1, 10s.

"He has contributed much to knowledge of the country, and the unction with which he speaks of the holy places which he has visited, will commend the book to the notice of all religious readers. His illustrations of Scripture are numerous and admirable."—*Daily News*.

GEOGRAPHICAL WORKS

NEW GENERAL ATLAS.

DEDICATED BY SPECIAL PERMISSION TO HER MAJESTY.

THE ROYAL ATLAS

OF

MODERN GEOGRAPHY

IN A SERIES OF ENTIRELY ORIGINAL AND AUTHENTIC MAPS.

BY A. KEITH JOHNSTON, F.R.S.E. F.R.G.S.

Author of the "Physical Atlas," &c.

With a complete Index of easy reference to each Map, comprising nearly 150,000 Places contained in this Atlas.

Imperial Folio, half-bound in russia or morocco, £5, 15s. 6d.

Athenæum, August 10, 1861.

Under the name of "The Royal Atlas of Modern Geography," Messrs Blackwood and Sons have published a book of maps, which for care of drawing and beauty of execution appears to leave nothing more to hope for or desire. Science and art have done their best upon this magnificent book. Mr A. Keith Johnston answers for the engraving and printing: to those who love clear forms and delicate bold type we need say no more. All that maps should be, these maps are: honest, accurate, intelligible guides to narrative or description. . . . Of the many noble atlases prepared by Mr Johnston and published by Messrs Blackwood and Sons, this Royal Atlas will be the most useful to the public, and will deserve to be the most popular.

Saturday Review.

The completion of Mr Keith Johnston's *Royal Atlas of Modern Geography* claims a special notice at our hands. While Mr Johnston's maps are certainly unsurpassed by any for legibility and uniformity of drawing, as well as for accuracy and judicious selection, this eminent geographer's Atlas has a distinguishing merit in the fact that each map is accompanied by a special index of remarkable fulness. The labour and trouble of reference are in this way reduced to a minimum. . . . The number of places enumerated in the separate indices is enormous. We believe, indeed, that every name which appears in the maps is registered in the tables; and as each place is indicated by two letters, which refer to the squares formed by the parallels of latitude and longitude, the method of using the index is extremely easy and convenient. . . . We know no series of maps which we can more warmly recommend. The accuracy, wherever we have attempted to put it to the test, is really astonishing.

Morning Herald.

The culmination of all attempts to depict the face of the world appears in the Royal Atlas, than which it is impossible to conceive anything more perfect.

Guardian.

This is, beyond question, the most splendid and luxurious, as well as the most useful and complete of all existing atlases.

Examiner.

There has not, we believe, been produced for general public use a body of maps equal in beauty and completeness to the Royal Atlas just issued by Mr A. K. Johnston.

Scotsman.

An almost daily reference to, and comparison of, it with others, since the publication of the first part some two years ago until now, enables us to say, without the slightest hesitation, that this is by far the most complete and authentic atlas that has yet been issued.

PUBLISHED BY W. BLACKWOOD AND SONS,

GEOGRAPHICAL WORKS

Index Geographicus: Being a List, Alphabetically arranged, of the PRINCIPAL PLACES ON THE GLOBE, with the COUNTRIES AND SUBDIVISIONS OF THE COUNTRIES IN WHICH THEY ARE SITUATED, and their LATITUDES AND LONGITUDES. Compiled specially with reference to KEITH JOHNSTON'S ROYAL ATLAS, but applicable to all Modern Atlases and Maps. In One Volume Imperial Octavo, pp. 676, price 21s.

The Physical Atlas of Natural Phenomena. By Alex.

KEITH JOHNSTON, F.R.S.E., &c., Geographer to the Queen for Scotland. A New and Enlarged Edition, consisting of 35 Folio Plates, 27 smaller ones, printed in Colours, with 135 pages of Letterpress, and Index.

SUBJECTS TREATED OF.

Geography and Orography,	11 Plates.
Hydrography,	6 "
Meteorology and Magnetism,	6 "
Botanical Geography,	3 "
Zoological Geography,	6 "
Ethnology and Statistics,	4 "

Imperial Folio, half-bound morocco, £8, 8s.

"The Physical Atlas of Mr Keith Johnston—a perfect treasure of compressed information."—*Sir John Herschel.*

"There is no map in this noble Atlas upon which we might not be tempted to write largely. Almost every one suggests a volume of reflection, and suggests it by presenting, in a few hours, accurate truths which it would be the labour of a volume to enforce in words, and by imprinting them, at the same time, upon the memory with such distinctness that their outlines are not likely to be afterwards effaced. The 'Physical Atlas' is a somewhat costly work, reckoning it only by its paper; but upon its paper is stamped an amount of knowledge that could scarcely be acquired without the reading of as many books as would cost seven times the price."—*Examiner.*

"This Atlas ought to have a place in every good library. . . . We know of no work containing such copious and exact information as to all the physical circumstances of the earth on which we live."—*Quarterly Review.*

The Physical Atlas. By Alexander Keith Johnston,

F.R.S.E., F.R.G.S., Geographer to the Queen for Scotland. Reduced from the Imperial Folio. This Edition Contains Twenty-Five Maps, including a Palaeontological and Geological Map of the British Islands, with Descriptive Letterpress, and a very copious Index. In Imperial Quarto, half-bound morocco, £2, 12s. 6d.

"Executed with remarkable care, and is as accurate, and, for all educational purposes, as valuable as the splendid large work (by the same author) which has now a European reputation."—*Eclectic Review.*

Atlas of Scotland. 31 Maps of the Counties of Scotland,

coloured. Bound in roan, price 10s. 6d. Each County may be had separately, in Cloth Case, 1s.

A Geological Map of Europe, exhibiting the different

Systems of Rocks according to the latest researches, and from Inedited materials. By Sir R. I. MURCHISON, D.C.L., F.R.S., &c., Director-General of the Geological Survey of Great Britain and Ireland; and JAMES NICOL, F.R.S.E., F.G.S., Professor of Natural History in the University of Aberdeen. Constructed by ALEX. KEITH JOHNSTON, F.R.S.E., &c., Geographer to the Queen, Author of the "Physical Atlas," &c. Scale, $\frac{1}{1,250,000}$ of Nature, 76 miles to an inch. Four Sheets Imperial, beautifully printed in Colours. Size, 4 feet 2 inches by 3 feet 5 inches. In Sheets, £3, 3s; in a Cloth Case, 4to, £3, 10s.

EDINBURGH AND LONDON.

GEOGRAPHICAL WORKS

Keith Johnston's School Atlases:—

I.

General and Descriptive Geography, exhibiting the Actual and Comparative Extent of all the Countries in the World, with their present Political Divisions. A New and Enlarged Edition. Corrected to the present time. With a complete Index. 26 Maps. Half-bound, 12s. 6d.

II.

Physical Geography, illustrating, in a Series of Original Designs the Elementary Facts of Geology, Hydrology, Meteorology, and Natural History. A New and Enlarged Edition. 20 Maps, including coloured Geological Maps of Europe and of the British Isles. Half-bound, 12s. 6d.

III.

Classical Geography: Comprising, in Twenty-three Plates, Maps and Plans of all the important Countries and Localities referred to by Classical Authors; accompanied by a pronouncing Index of Places, by T. HARVEY, M.A. Oxon. A New and Revised Edition. Half-bound, 12s. 6d.

IV.

Astronomy. Edited by J. R. Hind, Esq., F.R.A.S., &c. Notes and Descriptive Letterpress to each Plate, embodying all recent Discoveries in Astronomy. 18 Maps. Half-bound, 12s. 6d.

V.

Elementary School Atlas of General and Descriptive Geography for the Use of Junior Classes. A New and Cheaper Edition. 20 Maps, including a Map of Canaan and Palestine. Half-bound, 5s.

"They are as superior to all School Atlases within our knowledge, as were the larger works of the same Author in advance of those that preceded them."—*Educational Times*.

"Decidedly the best School Atlases we have ever seen."—*English Journal of Education*.

" . . . The *Physical Atlas* seems to us particularly well executed. . . . The last generation had no such help to learning as is afforded in these excellent elementary maps. The *Classical Atlas* is a great improvement on what has usually gone by that name; not only is it fuller, but in some cases it gives the same country more than once in different periods of time. Thus it approaches the special value of a historical atlas. . . . The *General Atlas* is wonderfully full and accurate for its scale. . . . Finally, the *Astronomical Atlas*, in which Mr Hind is responsible for the scientific accuracy of the maps, supplies an admitted educational want. No better companion to an elementary astronomical treatise could be found than this cheap and convenient collection of maps."—*Saturday Review*.

"The plan of these Atlases is admirable, and the excellence of the plan is rivalled by the beauty of the execution. . . . The best security for the accuracy and substantial value of a School Atlas is to have it from the hands of a man like our Author, who has perfected his skill by the execution of much larger works, and gained a character which he will be careful not to jeopardise by attaching his name to anything that is crude, slovenly, or superficial."—*Scotman*.

Atlas of Plans of Countries, Battles, Sieges, & Sea-Fights,

Illustrative of the History of Europe from the Commencement of the French Revolution to the Battle of Waterloo. Constructed by A. KEITH JOHNSTON, F.R.S.E., &c. &c. With Vocabulary of Military and Marine Terms. 109 Plates, Demy Quarto, price £3, 3s. Another Edition, in Crown Quarto, £1, 11s. 6d.

PUBLISHED BY W. BLACKWOOD AND SONS,

GEOGRAPHICAL WORKS

A New Map of Europe. By A. Keith Johnston, F.R.S.E., F.R.G.S., Geographer to the Queen. The Map is fully coloured, and measures 4 feet 2 inches by 3 feet 5 inches. Price, mounted on Cloth and Mahogany Roller, Varnished, or Folded in Quarto in a handsome Cloth Case, 21s.

Geological Map of Scotland. From the most Recent Authorities and Personal Observations. By JAMES NICOL, F.R.S.E., &c., Professor of Natural History in the University of Aberdeen. With Explanatory Notes. The Topography by ALEXANDER KEITH JOHNSTON, F.R.S.E., &c. Scale, 10 miles to an inch. In Cloth Case, 21s.

A Small Geological Map of Europe. From Keith Johnston's School "Physical Atlas." Printed in Colours, Sixpence.

A Geological Map of the British Isles. From the same. Printed in Colours, Sixpence.

Hand Atlases : Being the Maps of Keith Johnston's School
Atlases on Large Paper, and half-bound, full size, Imperial Quarto.

Physical Geography : Illustrating, in a Series of Original
Designs, the Elementary Facts of Geology, Hydrology, Meteorology, and Natural History. In Imperial Quarto, half-bound morocco, 25s.

Classical Geography : Comprising, in Twenty-three Plates,
Maps and Plans of all the important Countries and Localities referred to by Classical Authors. In Imperial Quarto, half-bound morocco, 25s.

General and Descriptive Geography : Exhibiting the Actual
and Comparative extent of all the Countries in the World, with their present political divisions. New and Enlarged Edition. In Imperial Quarto, half-bound morocco, 25s.

Astronomy : Comprising, in Eighteen Plates, a Complete
Series of Illustrations of the Heavenly Bodies, drawn with the greatest care from Original and Authentic Documents. By ALEX. KEITH JOHNSTON, F.R.S.E. &c. Edited by J. R. HIND, F.R.A.S., &c. In Imperial Quarto, half-morocco, 21s.

"The Atlas is undoubtedly the most beautiful work of its class that has ever been published and in several respects the most instructive."—*The Astronomer Royal*.

"To say that Mr Hind's Atlas is the best thing of the kind is not enough—it has no competitor."—*Athenæum*.

Geological and Palæontological Map of the British
Islands, including Tables of the Fossils of the different Epochs, &c. &c., from the Sketches and Notes of Professor EDWARD FORBES. With Illustrative and Explanatory Letterpress. 21s.

PUBLISHED BY W. BLACKWOOD AND SONS,

AGRICULTURAL AND RURAL AFFAIRS

The Book of the Farm. Detailing the Labours of the

Farmer, Farm-Steward, Ploughman, Shepherd, Hedger, Cattle-man, Field-worker, and Dairymaid, and forming a safe Monitor for Students in Practical Agriculture. By HENRY STEPHENS, F.R.S.E. Two Volumes, Royal Octavo, £3, handsomely bound in cloth, with upwards of 600 Illustrations.

"The best book I have ever met with."—*Professor Johnston.*

"We have thoroughly examined these volumes; but to give a full notice of their varied and valuable contents would occupy a larger space than we can conveniently devote to their discussion; we therefore, in general terms, commend them to the careful study of every young man who wishes to become a good practical farmer.—*Times.*

The Book of Farm Implements and Machines. By James

SLIGHT and R. SCOTT BURN. Edited by HENRY STEPHENS, F.R.S.E. Illustrated with 876 Engravings. Royal Octavo, uniform with the "Book of the Farm," half-bound, £2, 2s.

The Book of Farm Buildings: their Arrangement and

Construction. By HENRY STEPHENS, F.R.S.E., and R. SCOTT BURN. Royal Octavo, with 1045 Illustrations. Uniform with the "Book of the Farm." Half-bound, £1, 11s. 6d.

The Book of the Garden. By Charles M'Intosh. In Two

large Volumes, Royal Octavo, embellished with 1353 Engravings.

Each Volume may be had separately—viz.

I. ARCHITECTURAL and ORNAMENTAL.—On the Formation of Gardens—Construction, Heating, and Ventilation of Fruit and Plant Houses, Pits, Frames, and other Garden Structures, with Practical Details. Illustrated by 1073 Engravings, pp. 776. £2, 10s.

II. PRACTICAL GARDENING, Contains—Directions for the Culture of the Kitchen Garden, the Hardy-fruit Garden, the Forcing Garden, and Flower Garden, including Fruit and Plant Houses, with Select Lists of Vegetables, Fruits, and Plants. Pp. 868, with 279 Engravings. £1, 17s. 6d.

"In the construction of every kind of building required in a garden, the 'structural' section of the work will be found to contain a large amount of information suitable alike for buildings and gardens. Mr M'Intosh being himself one of the most experienced garden architects of our time, minute details are given, so that the expense of even a pit, up to a garden replete with every necessary erection, may be at once ascertained, a matter of no small importance to gentlemen about either to form new gardens, or improve such as already exist. . . . On the whole, this volume on structural gardening, both in compilation and artistical execution, deserves our warmest commendation.

"The second volume is of a cultural character, and has been got up with great care and research. It embodies the opinions and practice of the older writers on Horticulture, and also, what is of more importance, the experience of our eminent modern gardeners on the subject, together with the opinions of our author, who has studied and practised the art for upwards of half a century, both in this country and on the Continent. . . . We therefore feel justified in recommending Mr M'Intosh's two excellent volumes to the notice of the public."—*Gardeners' Chronicle.*

EDINBURGH AND LONDON.

AGRICULTURAL AND RURAL AFFAIRS

Practical System of Farm Book-Keeping : Being that recommended in the "Book of the Farm" by H. STEPHENS. Royal Octavo, 2s. 6d. Also, **SEVEN FOLIO ACCOUNT-BOOKS**, printed and ruled in accordance with the System, the whole being specially adapted for keeping, by an easy and accurate method, an account of all the transactions of the Farm. A detailed Prospectus may be had from the Publishers. Price of the complete set of Eight Books, £1, 4s. 6d. Also, **A LABOUR ACCOUNT OF THE ESTATE**, 2s. 6d.

"We have no hesitation in saying, that of the many systems of keeping farm-accounts which are in vogue, there is not one which will bear comparison with that just issued by Messrs Blackwood, according to the recommendations of Mr Stephens, in his invaluable 'Book of the Farm.' The great characteristic of this system is its simplicity. When once the details are mastered, which it will take very little trouble to accomplish, it will be prized as the clearest method to show the profit and loss of business, and to prove how the soundest and surest calculations can be arrived at. We earnestly recommend a trial of the entire series of books—they must be used as a whole to be thoroughly profitable—for we are convinced the verdict of our agricultural friends who make such a trial will speedily accord with our own."—*Bell's Messenger*.

Agricultural Statistics of Scotland. Report by the Highland and Agricultural Society of Scotland to the Board of Trade, for 1855, 1856, and 1857. 1s. 6d. each.

Ainslie's Treatise on Land-Surveying. A new and enlarged Edition, edited by WILLIAM GALBRAITH, M.A., F.R.A.S. One Volume, Octavo, with a Volume of Plates in Quarto, 21s.

"The best book on surveying with which I am acquainted."—W. RUTHERFORD, LL.D., F.R.A.S., *Royal Military Academy, Woolwich*.

Reports of the Association for Promoting Improvement in the Dwellings and Domestic Condition of Agricultural Labourers in Scotland. Seven Reports, 1855-61. 1s. each.

The Forester : A Practical Treatise on the Planting, Rearing, and Management of Forest Trees. By JAMES BROWN, Wood Manager to the Earl of Seafield. Third Edition, greatly enlarged, with numerous Engravings on Wood. Royal Octavo, 30s.

"What we have often stated in these columns we now repeat, that the book before us is the most useful guide to good Arboriculture in the English language. The Author is a man of great experience in Scotch forestry, and, moreover, is well grounded in the science of tree cultivation ; so that he does not fall into the mistakes which mere theorists, or mere practicals, have each committed on so large a scale, in too many great places. We will even add, that it has been to the advice and instruction given in two former editions of the 'Forester,' now exhausted, that the general improvement in timber management may be fairly ascribed."—*Gardeners' Chronicle*.

"Beyond all doubt this is the best work on the subject of Forestry extant."—*Gardeners' Journal*.

Handbook of the Mechanical Arts concerned in the Construction and Arrangement of Dwellings and other Buildings ; Including Carpentry, Smith-work, Iron-framing, Brick-making, Columns, Cements, Well-sinking, Enclosing of Land, Road-making, &c. By R. SCOTT BURN. Crown Octavo, with 504 Engravings on Wood, 6s. 6d.

AGRICULTURAL AND RURAL AFFAIRS

The Year-Book of Agricultural Facts. 1859 and 1860.

Edited by R. SCOTT BURN. Foolscep Octavo, 5s. each. 1861 and 1862, 4s. each.

Practical Ventilation, as applied to Public, Domestic, and

Agricultural Structures. By R. SCOTT BURN, Engineer. 6s.

Dwellings for the Working Classes: their Construction and

Arrangement; with Plans, Elevations, and Specifications, suggestive of Structures adapted to the Agricultural and Manufacturing Districts. By R. SCOTT BURN. Quarto, with numerous Diagrams, 3s.

The West of Ireland as a Field for Investment. By James

CAIRD, Farmer, Baldoon. Octavo, with a Map, 6s.

The Practical Planter: Containing Directions for the

Planting of Waste Land and Management of Wood, with a new Method of Rearing the Oak. By THOMAS CRUIKSHANK, Forester at Careston. Octavo, 12s.

Elkington's System of Draining: A Systematic Treatise

on the Theory and Practice of Draining Land, adapted to the various Situations and Soils of England and Scotland, drawn up from the Communications of Joseph Elkington, by J. JOHNSTONE. Quarto, 10s. 6d.

Trigonometrical Surveying, Levelling, and Railway En-

gineering. By WILLIAM GALBRAITH, M.A. Octavo, 7s. 6d.

The Preparation of Cooked Food for the Fattening of

Cattle, and the advantage of Using it along with Cut Straw, Hay, Turnips, or other Vegetables. By THOMAS HARKNESS. 6d.

Journal of Agriculture, and Transactions of the Highland

AND AGRICULTURAL SOCIETY OF SCOTLAND.

OLD SERIES, 1828 to 1843, 21 vols. £3 3 0

NEW SERIES, 1843 to 1851, 8 vols. 2 2 0

The Rural Economy of England, Scotland, and Ireland.

By LEONCE DE LAVERGNE. Translated from the French. With Notes by a Scottish Farmer. In Octavo, 12s.

"One of the best works on the philosophy of agriculture and of agricultural political economy that has appeared."—*Spectator*.

On the Management of Landed Property in the Highlands

of Scotland. By GEORGE G. MACKAY, C.E. Crown Octavo, 1s. 6d.

EDINBURGH AND LONDON.

AGRICULTURAL AND RURAL AFFAIRS

Professor Johnston's Works :—

Experimental Agriculture. Being the Results of Past, and Suggestions for Future, Experiments in Scientific and Practical Agriculture. 8s.

Elements of Agricultural Chemistry and Geology. Eighth Edition, 6s. 6d.

"Nothing hitherto published has at all equalled it, both as regards true science and sound common sense."—*Quarterly Journal of Agriculture.*

A Catechism of Agricultural Chemistry and Geology. Fifty-seventh Edition, 1s.

"The extent to which this little Catechism has been circulated at home, its translation into nearly every European language, and its introduction into the Schools of Germany, Holland, Flanders, Italy, Sweden, Poland, and South and North America, while it has been gratifying to the Author, has caused him to take additional pains in improving and adding to the amount of useful information, in the present edition."—*Preface.*

On the Use of Lime in Agriculture. 6s.

Instructions for the Analysis of Soils. Fourth Edition, 2s.

An Inquiry into the Nature and Cause of the Prevailing Disease and Present Condition of the Larch Plantations in Great Britain. By CHARLES M'INTOSH, Associate of the Linnean Society, &c. &c. In Crown Octavo, 5s.

View of the Salmon-Fishery of Scotland. With Observations on the Nature, Habits, and Instincts of the Salmon, and on the Law as affecting the Rights of Parties, &c. &c. By the Late MURDO MACKENZIE, Esq. of Cardross and Dundonald. In Octavo, 5s.

On the Management of Bees. By Dr Mackenzie, Eileanach. Foolscep, 4d.

The Chemistry of Vegetable and Animal Physiology. By Dr J. G. MULDER, Professor of Chemistry in the University of Utrecht. With an Introduction and Notes by PROFESSOR JOHNSTON. 22 Plates. Octavo, 30s.

The Grasses of Britain. Illustrated by 140 Figures, Drawn and Engraved by the Author. By R. PARNELL, M.D., F.R.S.E. This work contains a Figure and full description of every Grass found in Britain, with their Uses in Agriculture. Royal Octavo, 42s.

The Relative Value of Round and Sawn Timber, shown by means of Tables and Diagrams. By JAMES RAIT, Land-Steward at Castle-Forbes. Royal Octavo, 8s., hf.-bd.

EDINBURGH AND LONDON.

AGRICULTURAL AND RURAL AFFAIRS

Dairy Management and Feeding of Milch Cows : Being the
recorded Experience of Mrs AGNES SCOTT, Winkston, Peebles. Second Edition.
Foolschap, 1s.

Italian Irrigation : A Report addressed to the Hon. the
Court of Directors of the East India Company, on the Agricultural Canals of
Piedmont and Lombardy ; with a Sketch of the Irrigation System of Northern
and Central India. By Lieut.-Col. BAIRD SMITH, C.B. Second Edition. Two
Volumes, Octavo, with Atlas in Folio, 30s.

The Architecture of the Farm : A Series of Designs for
Farm Houses, Farm Steadings, Factors' Houses, and Cottages. By JOHN STAR-
FORTH, Architect. Sixty-two Engravings. In Medium Quarto, £2, 2s.

"One of the most useful and beautiful additions to Messrs Blackwood's extensive and valuable
library of agricultural and rural economy."—*Morning Post*.

The Yester Deep Land-Culture : Being a Detailed Account
of the Method of Cultivation which has been successfully practised for several
years by the Marquess of Tweeddale at Yester. By HENRY STEPHENS, Esq.,
F.R.S.E., Author of the 'Book of the Farm.' In Small Octavo, with Engravings
on Wood, 4s. 6d.

A Manual of Practical Draining. By Henry Stephens,
F.R.S.E., Author of the 'Book of the Farm.' Third Edition, Octavo, 5s.

A Catechism of Practical Agriculture. By Henry Stephens,
F.R.S.E., Author of the 'Book of the Farm,' &c. In Crown Octavo, with Illus-
trations, 1s.

"We feel perfectly assured that this Catechism is precisely the thing which at this moment
is wanted in every rural and national school in England, more especially since the question
has arisen, How is it possible to educate skilled agricultural labourers more in the direction of
their art and occupation, and to render the school more subservient to the field and the farm-
yard?"—*Nottingham Guardian*.

A Handy Book on Property Law. By Lord St Leonards.
A new Edition, enlarged, with Index, and Portrait of the Author. Crown Octavo,
3s. 6d.

"Less than 200 pages serve to arm us with the ordinary precautions to which we should at-
tend in selling, buying, mortgaging, leasing, settling, and devising estates. We are informed
of our relations to our property, to our wives and children, and of our liabilities as trustees or
executors, in a little book for the million, a book which the author tenders to the *profanum vul-
gus* as even capable of 'beguiling a few hours in a railway carriage.'"—*Times*.

The Practical Irrigator and Drainer. By George Stephens.
Octavo, 8s. 6d.

EDINBURGH AND LONDON.

WORKS ON SCIENCE

The Geological Examiner: A Progressive Series of Questions adapted to the Introductory and Advanced Text-Books of Geology. Prepared to assist Teachers in framing their Examinations, and Students in testing their own Progress and Proficiency. By DAVID PAGE, F.G.S. 6d.

Handbook of Geological Terms, Geology, and Physical Geography. By DAVID PAGE, F.G.S. Second Edition, Crown Octavo, 7s. 6d.

The Past and Present Life of the Globe : Being a Sketch in Outline of the World's Life-System. By DAVID PAGE, F.G.S., Author of "Text-Books of Geology," &c. In Crown Octavo, 6s. With Fifty Illustrations, Drawn and Engraved expressly for this Work.

A Glossary of Navigation. Containing the Definitions and Propositions of the Science, Explanation of Terms, and Description of Instruments. By the Rev. J. B. HARBORD, M.A., St John's College, Cambridge; Chaplain and Naval Instructor, Royal Navy. Illustrated with Diagrams. Price 6s.

A Nomenclature of Colours, applicable to the Arts and Natural Sciences, to Manufactures, and other Purposes of General Utility. By D. R. HAY, F.R.S.E. 228 examples of Colours, Hues, Tints, and Shades. Octavo, £3, 8s.

The Geology of Pennsylvania : A Government Survey ; with a General View of the Geology of the United States, Essays on the Coal Formation and its Fossils, and a Description of the Coal-Fields of North America and Great Britain. By Professor HENRY DARWIN ROGERS, F.R.S., F.G.S., Professor of Natural History in the University of Glasgow. With Seven large Maps, and numerous Illustrations engraved on Copper and on Wood. In Three Volumes, Royal Quarto, £8, 8s.

Introduction to Meteorology. By David P. Thomson, M.D. Octavo, with Engravings, 14s.

Five Place Logarithms. Arranged by E. Sang, F.R.S.E. 6d.

Fortification : For the Use of Officers in the Army, and Readers of Military History. By Lieut. H. YULE, Bengal Engineers. Octavo, with numerous Illustrations, 10s. 6d.

"An excellent manual : one of the best works of its class."—*British Army Despatch.*

EDINBURGH AND LONDON.

DIVINITY

Religion in Common Life : A Sermon Preached in Crathie

Church, October 14, 1855, before Her Majesty the Queen and Prince Albert.
By the Rev. JOHN CAIRD, D.D. Published by Her Majesty's Command. Bound
in cloth, 8d. Cheap Edition, 3d.

Sermons. By the Rev. John Caird, D.D., Minister of the

Park Church, Glasgow, Author of "Religion in Common Life." 12th Thousand.
Foolscap Octavo, 5s.

"They are noble sermons; and we are not sure but that, with the cultivated reader, they will gain rather than lose by being read, not heard. There is a thoughtfulness and depth about them which can hardly be appreciated, unless when they are studied at leisure; and there are so many sentences so felicitously expressed that we should grudge being hurried away from them by a rapid speaker, without being allowed to enjoy them a second time."—*Fraser's Magazine*.

The Book of Job. By the late Rev. George Croly, D.D.,

Rector of St Stephen, Walbrook. Foolscap Octavo. 4s.

Lectures in Divinity. By the late Rev. George Hill, D.D.,

Principal of St Mary's College, St Andrews. Stereotyped Edition. Octavo, 14s.

"I am not sure if I can recommend a more complete manual of Divinity."—*Dr Chalmers*.

Vindication of Christian Faith. By the late John Inglis,

D.D., Edinburgh. Octavo, 10s. 6d.

The Mother's Legacie to Her Unborne Childe. By Mrs

ELIZABETH JOEELINE. Edited by the Very Rev. Principal LEE. 32mo, 4s. 6d.

"This beautiful and touching legacie."—*Athenæum*.

"A delightful monument of the piety and high feeling of a truly noble mother."—*Morning Advertiser*.

Lectures on the History of the Church of Scotland, from

the Reformation to the Revolution Settlement. By the late Very Rev. JOHN LEE, D.D., LL.D., Principal of the University of Edinburgh. With Notes and Appendices from the Author's Papers. Edited by the Rev. WILLIAM LEE. Two Volumes, Octavo, 21s.

Lectures on the Book of Esther. By the Rev. Thomas

M'CRIE, D.D. Foolscap, 4s. 6d.

Sermons. By the late Rev. Thomas M'Crie, D.D. Crown

Octavo, 6s.

Lectures on Scripture Characters : Addressed to the Stu-

dents of King's College at the Lecture on "Practical Religion," founded by the late John Gordon, Esq. of Murtle. By the late Rev. DUNCAN MEARNS, D.D., Professor of Divinity in the University and King's College of Aberdeen. Two Volumes, Crown Octavo, 12s.

PUBLISHED BY W. BLACKWOOD AND SONS,

DIVINITY

Analysis and Critical Interpretation of the Hebrew Text

of the Book of Genesis. Preceded by a Hebrew Grammar, and Dissertations on the Genuineness of the Pentateuch, and on the Structure of the Hebrew Language. By the Rev. WILLIAM PAUL, A.M. Octavo, 18s.

Prayers for Social and Family Worship. Prepared by a

COMMITTEE OF THE GENERAL ASSEMBLY OF THE CHURCH OF SCOTLAND, and specially designed for the use of Soldiers, Sailors, Colonists, Sojourners in India, and other Persons, at Home or Abroad, who are deprived of the Ordinary Services of a Christian Ministry. *Published by Authority of the Committee.* Third Edition. In Crown Octavo, bound in cloth, 4s.

Prayers for Social and Family Worship. Being a Cheap

Edition of the above. Foolscap Octavo, 1s. 6d.

Family Prayers: As Authorised by the General Assembly

of the Church of Scotland; with other Prayers by the Committee of the General Assembly on Aids to Devotion. To which is prefixed a Pastoral Letter from the General Assembly on Family Worship. Crown Octavo, 4s. 6d.

Diversities of Faults in Christian Believers. By the same

Author. Foolscap Octavo, 4s. 6d.

The Christian Life, in its Origin, Progress, and Perfection.

By the Very Rev. E. B. RAMSAY, LL.D., F.R.S.E., Dean of the Diocese of Edinburgh. Crown Octavo. 9s.

On the Origin and Connection of the Gospels of Matthew,

Mark, and Luke; With Synopsis of Parallel Passages and Critical Notes. By JAMES SMITH, Esq. of Jordanhill, F.R.S., Author of the "Voyage and Shipwreck of St Paul." Medium Octavo, 16s.

Theism: The Witness of Reason and Nature to an All-

Wise and Beneficent Creator. By the Rev. JOHN TULLOCH, D.D., Principal and Professor of Theology, St Mary's College, St Andrews; and one of Her Majesty's Chaplains in Ordinary in Scotland. In One Volume, Octavo, 10s. 6d.

"Dr Tulloch's Essay, in its masterly statement of the real nature and difficulties of the subject, its logical exactness in distinguishing the illustrative from the suggestive, its lucid arrangement of the argument, its simplicity of expression, is quite unequalled by any work we have seen on the subject."—*Christian Remembrancer*, January 1857.

Sermons on Practical Subjects. By the Rev. Samuel

WARREN, LL.D., Incumbent of All Souls, Manchester. Second Edition. Crown Octavo, 6s. 6d.

PUBLISHED BY W. BLACKWOOD AND SONS,

INTELLECTUAL PHILOSOPHY

Institutes of Metaphysic: The Theory of Knowing and

Being. By JAMES F. FERRIER, A. B. Oxon., Professor of Moral Philosophy and Political Economy, St Andrews. Second Edition. Crown Octavo, 10s. 6d.

Lectures on Metaphysics. By Sir William Hamilton, Bart.,

Professor of Logic and Metaphysics in the University of Edinburgh. Edited by the Rev. H. L. MANSEL, B. D., LL. D., Waynflete Professor of Moral and Metaphysical Philosophy, Oxford; and JOHN VEITCH, M. A., Professor of Logic, Rhetoric, and Metaphysics, St Andrews. Third Edition. Two Volumes, Octavo, 24s.

Lectures on Logic. By Sir William Hamilton, Bart.

Edited by Professors Mansel and Veitch. Second Edition. In Two Vols., 24s.

Thorndale: or, the Conflict of Opinions. By William

SMITH, Author of "A Discourse on Ethics," &c. Second Edition. Crown Octavo, 10s. 6d.

Gravenhurst; or, Thoughts on Good and Evil. By

WILLIAM SMITH, Author of 'Thorndale,' &c. In Crown Octavo, price 7s. 6d.

"One of those rare books which, being filled with noble and beautiful thoughts, deserves an attentive and thoughtful perusal."—*Westminster Review*.

"Our space will only allow us to mention, in passing, the charming volume of subtle thought expressed in a graceful transparent style, which the author of 'Thorndale' has just issued under the title of 'Gravenhurst; or, Thoughts on Good and Evil.' We will simply recommend every reader, fond of thoughtful writing on the moral aspects of life, to carry 'Gravenhurst' with him into some delightful solitude."—*Cornhill Magazine*.

A Discourse on Ethics of the School of Paley. By William

SMITH, Author of "Thorndale." Octavo, 4s.

On the Influence exerted by the Mind over the Body, in

the Production and Removal of Morbid and Anomalous Conditions of the Animal Economy. By JOHN GLEN, M. A. Crown Octavo, 2s. 6d.

Descartes on the Method of Rightly conducting the Reason,

and Seeking Truth in the Sciences. Translated from the French. 12mo, 2s.

Descartes' Meditations, and Selections from his Principles

of Philosophy. Translated from the Latin. 12mo, 3s.

Speculative Philosophy: An Introductory Lecture, delivered

at the opening of the Class of Logic and Rhetoric, Nov. 1, 1864, by JOHN VEITCH, M. A., Professor of Logic and Rhetoric in the University of Glasgow. 1s.

EDINBURGH AND LONDON.

CRITICISM

The Book-Hunter, &c. By John Hill Burton. In Crown Octavo. Second Edition, 7s. 6d.

"We have not been more amused for a long time: and every reader who takes interest in typography and its consequences will say the same, if he will begin to read; beginning, he will finish, and be sorry when it is over."—*Athenæum*.

"Mr Burton has now given us a pleasant book, full of quaint anecdote, and of a lively bookish talk. There is a quiet humour in it which is very taking, and there is a curious knowledge of books which is really very sound."—*Examiner*.

"One of the most charming volumes we have ever read, abounding in quaint anecdote, and printed in appropriate fashion on cream-coloured paper. It is impossible anywhere to open the book without coming upon a 'good thing.'"—*Literary Budget*.

The Sketcher. By the Rev. John Eagles. Originally published in *Blackwood's Magazine*. Octavo, 10s. 6d.

"This volume, called by the appropriate name of 'The Sketcher,' is one that ought to be found in the studio of every English landscape-painter. . . . More instructive and suggestive readings for young artists, especially landscape-painters, can scarcely be found."—*The Globe*.

Essays. By the Rev. John Eagles, A.M. Oxon. Originally published in *Blackwood's Magazine*. Post Octavo, 10s. 6d.

CONTENTS:—Church Music, and other Parochials.—Medical Attendance, and other Parochials.—A few Hours at Hampton Court.—Grandfathers and Grandchildren.—Sitting for a Portrait.—Are there not Great Boasters among us?—Temperance and Teetotal Societies.—Thackeray's Lectures: Swift.—The Crystal Palace.—Civilisation: the Census.—The Beggar's Legacy.

Lectures on the Poetical Literature of the Past Half-Century. By D. M. MOIR. Third Edition. Foolscep Octavo, 5s.

"Exquisite in its taste and generous in its criticisms."—*Hugh Miller*.

Two Lectures on the Genius of Handel, and the distinctive Character of his Sacred Compositions. Delivered to the Members of the Edinburgh Philosophical Institution. By the Very Rev. DEAN RAMSAY, Author of 'Reminiscences of Scottish Life and Character.' In Crown Octavo, 3s. 6d.

Essays: Critical and Imaginative. By John Wilson, Professor of Moral Philosophy and Political Economy in the University of Edinburgh. Edited by PROFESSOR FERRIER. Four Volumes, Crown Octavo, 24s.

Homer and his Translators, and the Greek Drama. By PROFESSOR WILSON. Crown Octavo, 6s.

Blackwood's Magazine, from Commencement in 1817 to December 1861. Numbers 1 to 554, forming 90 Volumes. £31, 10s.

Index to the First Fifty Volumes of Blackwood's Magazine. Octavo, 15s.

Lectures on the History of Literature. Ancient and Modern. By FREDERICK SCHLEGEL. Translated by J. G. LOCKHART. Foolscep, 5s.

PUBLISHED BY W. BLACKWOOD AND SONS,

